

# SEQUENCE LISTING

<110> Anderson, David J.  
Dong, Xinzhong  
Zylka, Mark  
Simon, Melvin  
Han, Sang-kyou

<120> PAIN SIGNALING MOLECULES

<130> CALTE.004C1

<150> US 60/222,344

<151> 2000-08-01

<150> US 60/202,027

<151> 2000-05-04

<150> US 09/704,707

<151> 2000-11-03

<150> US unknown

<151> 2001-04-19

<160> 109

<170> FastSEQ for Windows Version 4.0

<210> 1

<211> 1088

<212> DNA

<213> Mus Musculus

<220>

<221> CDS

<222> (115)...(1026)

<400> 1

acagaagcca gagagctaca tccagcaaga ggaatggggg aaagcagcac ctgtgcaggg 60

tttctagccc taaacacatc ggcctcgcca acagcaccca caacaactaa tcca atg 117

Met

1

gac aat acc atc cct gga ggt atc aac atc acg att ctg atc cca aac 165

Asp Asn Thr Ile Pro Gly Gly Ile Asn Ile Thr Ile Leu Ile Pro Asn

5

10

15

ttg atg atc atc atc ttc gga ctg gtc ggg ctg aca gga aat ggc att 213

Leu Met Ile Ile Ile Phe Gly Leu Val Gly Leu Thr Gly Asn Gly Ile

20

25

30

gtg ttc tgg ctg ctg ggc ttc tgt ttg cac agg aac gcc ttc tca gtc 261

Val Phe Trp Leu Leu Gly Phe Cys Leu His Arg Asn Ala Phe Ser Val

35

40

45

tac atc cta aac tta gct cta gct gac ttc ttc ttc ctc cta ggt cac	309
Tyr Ile Leu Asn Leu Ala Leu Ala Asp Phe Phe Phe Leu Leu Gly His	
50 55 60 65	
atc ata gat tcc ata ctg ctt ctt ctc aat gtt ttc tac cca att acc	357
Ile Ile Asp Ser Ile Leu Leu Leu Leu Asn Val Phe Tyr Pro Ile Thr	
70 75 80	
ttt ctc ttg tgc ttt tac acg atc atg atg gtt ctc tat atc gca ggc	405
Phe Leu Leu Cys Phe Tyr Thr Ile Met Met Val Leu Tyr Ile Ala Gly	
85 90 95	
ctg agc atg ctc agt gcc atc agc act gag cgc tgc ctg tct gta ctg	453
Leu Ser Met Leu Ser Ala Ile Ser Thr Glu Arg Cys Leu Ser Val Leu	
100 105 110	
tgc ccc atc tgg tat cac tgt cac cgc cca gaa cac aca tca act gtc	501
Cys Pro Ile Trp Tyr His Cys His Arg Pro Glu His Thr Ser Thr Val	
115 120 125	
atg tgt gct gtc atc tgg gtc ctg tcc ctg ttg atc tgc att ctg aat	549
Met Cys Ala Val Ile Trp Val Leu Ser Leu Leu Ile Cys Ile Leu Asn	
130 135 140 145	
agt tat ttc tgc ggt ttc tta aat acc caa tat aaa aat gaa aat ggg	597
Ser Tyr Phe Cys Gly Phe Leu Asn Thr Gln Tyr Lys Asn Glu Asn Gly	
150 155 160	
tgt ctg gca ttg aac ttc ttt act gct gca tac ctg atg ttt ttg ttt	645
Cys Leu Ala Leu Asn Phe Phe Thr Ala Ala Tyr Leu Met Phe Leu Phe	
165 170 175	
gtg gtc ctc tgt ctg tcc agc ctg gct ctg gtg gcc agg ttg ttc tgt	693
Val Val Leu Cys Leu Ser Ser Leu Ala Leu Val Ala Arg Leu Phe Cys	
180 185 190	
ggg act ggg cag ata aag ctt acc aga ttg tat gta acc att att ctg	741
Gly Thr Gly Gln Ile Lys Leu Thr Arg Leu Tyr Val Thr Ile Ile Leu	
195 200 205	
agc att ttg gtt ttt ctc ctt tgc gga ttg ccc ttt ggc atc cac tgg	789
Ser Ile Leu Val Phe Leu Leu Cys Gly Leu Pro Phe Gly Ile His Trp	
210 215 220 225	
ttt ctg tta ttc aag att aag gat gat ttt cat gta ttt gat ctt gga	837
Phe Leu Leu Phe Lys Ile Lys Asp Asp Phe His Val Phe Asp Leu Gly	
230 235 240	
ttt tat ctg gca tca gtt gtc ctg act gct att aat agc tgt gcc aac	885
Phe Tyr Leu Ala Ser Val Val Leu Thr Ala Ile Asn Ser Cys Ala Asn	
245 250 255	
ccc atc att tac ttc ttc gtg gga tcc ttc agg cat cgg ttg aag cac	933
Pro Ile Ile Tyr Phe Phe Val Gly Ser Phe Arg His Arg Leu Lys His	
260 265 270	
cag acc ctc aaa atg gtt ctc cag aat gca ctg caa gac act cct gag	981

Gln Thr Leu Lys Met Val Leu Gln Asn Ala Leu Gln Asp Thr Pro Glu  
 275 280 285

aca gcc aaa atc atg gtg gag atg tca aga agc aaa tca gag cca 1026  
 Thr Ala Lys Ile Met Val Glu Met Ser Arg Ser Lys Ser Glu Pro  
 290 295 300

tgatgaagag cctttgcctg gcccttagaa gtggctttgg ggtgagcatt gccctgctgc 1086  
 ac 1088

<210> 2  
 <211> 304  
 <212> PRT  
 <213> Mus Musculus

<400> 2  
 Met Asp Asn Thr Ile Pro Gly Gly Ile Asn Ile Thr Ile Leu Ile Pro  
 1 5 10 15  
 Asn Leu Met Ile Ile Ile Phe Gly Leu Val Gly Leu Thr Gly Asn Gly  
 20 25 30  
 Ile Val Phe Trp Leu Leu Gly Phe Cys Leu His Arg Asn Ala Phe Ser  
 35 40 45  
 Val Tyr Ile Leu Asn Leu Ala Leu Ala Asp Phe Phe Phe Leu Leu Gly  
 50 55 60  
 His Ile Ile Asp Ser Ile Leu Leu Leu Leu Asn Val Phe Tyr Pro Ile  
 65 70 75 80  
 Thr Phe Leu Leu Cys Phe Tyr Thr Ile Met Met Val Leu Tyr Ile Ala  
 85 90 95  
 Gly Leu Ser Met Leu Ser Ala Ile Ser Thr Glu Arg Cys Leu Ser Val  
 100 105 110  
 Leu Cys Pro Ile Trp Tyr His Cys His Arg Pro Glu His Thr Ser Thr  
 115 120 125  
 Val Met Cys Ala Val Ile Trp Val Leu Ser Leu Leu Ile Cys Ile Leu  
 130 135 140  
 Asn Ser Tyr Phe Cys Gly Phe Leu Asn Thr Gln Tyr Lys Asn Glu Asn  
 145 150 155 160  
 Gly Cys Leu Ala Leu Asn Phe Phe Thr Ala Ala Tyr Leu Met Phe Leu  
 165 170 175  
 Phe Val Val Leu Cys Leu Ser Ser Leu Ala Leu Val Ala Arg Leu Phe  
 180 185 190  
 Cys Gly Thr Gly Gln Ile Lys Leu Thr Arg Leu Tyr Val Thr Ile Ile  
 195 200 205  
 Leu Ser Ile Leu Val Phe Leu Leu Cys Gly Leu Pro Phe Gly Ile His  
 210 215 220  
 Trp Phe Leu Leu Phe Lys Ile Lys Asp Asp Phe His Val Phe Asp Leu  
 225 230 235 240  
 Gly Phe Tyr Leu Ala Ser Val Val Leu Thr Ala Ile Asn Ser Cys Ala  
 245 250 255  
 Asn Pro Ile Ile Tyr Phe Phe Val Gly Ser Phe Arg His Arg Leu Lys  
 260 265 270  
 His Gln Thr Leu Lys Met Val Leu Gln Asn Ala Leu Gln Asp Thr Pro  
 275 280 285  
 Glu Thr Ala Lys Ile Met Val Glu Met Ser Arg Ser Lys Ser Glu Pro  
 290 295 300

<210> 3

<211> 1234  
<212> DNA  
<213> Mus musculus

<220>  
<221> CDS  
<222> (137)...(1051)

<400> 3

tctgtagtga ctgtatcttt ctttctacac aagccagtga gctacatcca acaagaggat 60  
tggggaaagc aatggtgaag catttcttgc cttaagacc tcagcctcac caacagcacc 120  
agtgacaaca aatcca atg gac gaa acc ctc cct gga agt atc aac att agg 172  
Met Asp Glu Thr Leu Pro Gly Ser Ile Asn Ile Arg

1 5 10

att ctg atc cca aaa ttg atg atc atc atc ttc gga ctg gtc gga ctg 220  
Ile Leu Ile Pro Lys Leu Met Ile Ile Ile Phe Gly Leu Val Gly Leu  
15 20 25

atg gga aac gcc att gtg ttc tgg ctc ctg ggc ttc cac ttg cgc aag 268  
Met Gly Asn Ala Ile Val Phe Trp Leu Leu Gly Phe His Leu Arg Lys  
30 35 40

aat gac ttc tca ctc tac atc cta aac ttg gcc cgg gct gac ttc ctt 316  
Asn Asp Phe Ser Leu Tyr Ile Leu Asn Leu Ala Arg Ala Asp Phe Leu  
45 50 55 60

ttc ctc ctc agt agt atc ata gct tcc acc ctg ttt ctt ctc aaa gtt 364  
Phe Leu Leu Ser Ser Ile Ile Ala Ser Thr Leu Phe Leu Leu Lys Val  
65 70 75

tcc tac ctc agc atc atc ttt cac ttg tgc ttt aac acc att atg atg 412  
Ser Tyr Leu Ser Ile Ile Phe His Leu Cys Phe Asn Thr Ile Met Met  
80 85 90

gtt gtc tac atc aca ggg ata agc atg ctc agt gcc atc agc act gag 460  
Val Val Tyr Ile Thr Gly Ile Ser Met Leu Ser Ala Ile Ser Thr Glu  
95 100 105

tgc tgc ctg tct gtc ctg tgc ccc acc tgg tat cgc tgc cac cgt cca 508  
Cys Cys Leu Ser Val Leu Cys Pro Thr Trp Tyr Arg Cys His Arg Pro  
110 115 120

gta cat aca tca act gtc atg tgt gct gtg atc tgg gtc cta tcc ctg 556  
Val His Thr Ser Thr Val Met Cys Ala Val Ile Trp Val Leu Ser Leu  
125 130 135 140

ttg atc tgc att ctg aat agc tat ttc tgt gct gtc tta cat acc aga 604  
Leu Ile Cys Ile Leu Asn Ser Tyr Phe Cys Ala Val Leu His Thr Arg  
145 150 155

tat gat aat gac aat gag tgt ctg gca act aac atc ttt acc gcc tcg 652  
Tyr Asp Asn Asp Asn Glu Cys Leu Ala Thr Asn Ile Phe Thr Ala Ser  
160 165 170

tac atg ata ttt ttg ctt gtg gtc ctc tgt ctg tcc agc ctg gct ctg 700  
Tyr Met Ile Phe Leu Leu Val Val Leu Cys Leu Ser Ser Leu Ala Leu

175	180	185	
ctg gcc agg ttg ttc tgt ggc gct ggg cag atg aag ctt acc aga ttt			748
Leu Ala Arg Leu Phe Cys Gly Ala Gly Gln Met Lys Leu Thr Arg Phe			
190	195	200	
cat gtg acc atc ttg ctg acc ctt ttg gtt ttt ctc ctc tgc ggg ttg			796
His Val Thr Ile Leu Leu Thr Leu Leu Val Phe Leu Leu Cys Gly Leu			
205	210	215	220
ccc ttt gtc atc tac tgc atc ctg tta ttc aag att aag gat gat ttc			844
Pro Phe Val Ile Tyr Cys Ile Leu Leu Phe Lys Ile Lys Asp Asp Phe			
225	230	235	
cat gta tta gat gtt aat ttt tat cta gca tta gaa gtc ctg act gct			892
His Val Leu Asp Val Asn Phe Tyr Leu Ala Leu Glu Val Leu Thr Ala			
240	245	250	
att aac agc tgt gcc aac ccc atc atc tac ttc ttc gtg ggc tct ttc			940
Ile Asn Ser Cys Ala Asn Pro Ile Ile Tyr Phe Phe Val Gly Ser Phe			
255	260	265	
aga cat cag ttg aag cac cag acc ctc aaa atg gtt ctc cag agt gca			988
Arg His Gln Leu Lys His Gln Thr Leu Lys Met Val Leu Gln Ser Ala			
270	275	280	
ctg cag gac act cct gag aca gct gaa aac atg gta gag atg tca agt			1036
Leu Gln Asp Thr Pro Glu Thr Ala Glu Asn Met Val Glu Met Ser Ser			
285	290	295	300
aac aaa gca gag cct tgatgaagag cctctacctg gacctcagag gtggctttgg			1091
Asn Lys Ala Glu Pro			
305			
agtgagcact gccctgctgc acttgaccac tgtccactct tctctcagct tactgatttg			1151
acatgcctca gtggtccacc aacaacttca acatctctcc actaacttag tttttctacc			1211
cctcctgaat aaaagcatta atc			1234

<210> 4

<211> 305

<212> PRT

<213> Mus musculus

<400> 4

Met Asp Glu Thr Leu Pro Gly Ser Ile Asn Ile Arg Ile Leu Ile Pro			
1	5	10	15
Lys Leu Met Ile Ile Phe Gly Leu Val Gly Leu Met Gly Asn Ala			
20	25	30	
Ile Val Phe Trp Leu Leu Gly Phe His Leu Arg Lys Asn Asp Phe Ser			
35	40	45	
Leu Tyr Ile Leu Asn Leu Ala Arg Ala Asp Phe Leu Phe Leu Leu Ser			
50	55	60	
Ser Ile Ile Ala Ser Thr Leu Phe Leu Leu Lys Val Ser Tyr Leu Ser			
65	70	75	80
Ile Ile Phe His Leu Cys Phe Asn Thr Ile Met Met Val Val Tyr Ile			
85	90	95	
Thr Gly Ile Ser Met Leu Ser Ala Ile Ser Thr Glu Cys Cys Leu Ser			



aac ttg gcc ctg gct gac ttc ctc ttc ctt ctc tgt cac atc ata aat	368
Asn Leu Ala Leu Ala Asp Phe Leu Phe Leu Leu Cys His Ile Ile Asn	
55 60 65	
tcc aca gtg gat ctt ctc aag ttt acc cta ccc aaa gga att ttt gcc	416
Ser Thr Val Asp Leu Leu Lys Phe Thr Leu Pro Lys Gly Ile Phe Ala	
70 75 80	
ttt tgt ttt cac act atc aaa agg gtt ctc tat atc aca ggc ctg agc	464
Phe Cys Phe His Thr Ile Lys Arg Val Leu Tyr Ile Thr Gly Leu Ser	
85 90 95 100	
atg ctc agt gcc atc agc act gag cgc tgc ctg tct gtc ctg tgc ccc	512
Met Leu Ser Ala Ile Ser Thr Glu Arg Cys Leu Ser Val Leu Cys Pro	
105 110 115	
atc tgg tat cac tgc cgc cgc cca gaa cac aca tca act gtc atg tgt	560
Ile Trp Tyr His Cys Arg Arg Pro Glu His Thr Ser Thr Val Met Cys	
120 125 130	
gct gtg atc tgg gtc ctg tcc ctg ttg atc tgc att ctg gat ggt tat	608
Ala Val Ile Trp Val Leu Ser Leu Leu Ile Cys Ile Leu Asp Gly Tyr	
135 140 145	
ttc tgc ggt tac tta gat aac cat tat ttc aat tac tct gtg tgt cag	656
Phe Cys Gly Tyr Leu Asp Asn His Tyr Phe Asn Tyr Ser Val Cys Gln	
150 155 160	
gca tgg gac atc ttt atc gga gca tac ctg atg ttt ttg ttt gta gtc	704
Ala Trp Asp Ile Phe Ile Gly Ala Tyr Leu Met Phe Leu Phe Val Val	
165 170 175 180	
ctc tgt ctg tcc acc ctg gct cta ctg gcc agg ttg ttc tgt ggt gct	752
Leu Cys Leu Ser Thr Leu Ala Leu Leu Ala Arg Leu Phe Cys Gly Ala	
185 190 195	
agg aat atg aaa ttt acc aga tta ttc gtg acc atc atg ctg acc gtt	800
Arg Asn Met Lys Phe Thr Arg Leu Phe Val Thr Ile Met Leu Thr Val	
200 205 210	
ttg gtt ttt ctt ctc tgt ggg ttg ccc tgg ggc atc acc tgg ttc ctg	848
Leu Val Phe Leu Leu Cys Gly Leu Pro Trp Gly Ile Thr Trp Phe Leu	
215 220 225	
tta ttc tgg att gca cct ggt gtg ttt gta cta gat tat agc cct ctt	896
Leu Phe Trp Ile Ala Pro Gly Val Phe Val Leu Asp Tyr Ser Pro Leu	
230 235 240	
ctg gtc cta act gct att aac agc tgt gcc aac ccc att att tac ttc	944
Leu Val Leu Thr Ala Ile Asn Ser Cys Ala Asn Pro Ile Ile Tyr Phe	
245 250 255 260	
ttc gtg ggc tcc ttc agg caa cgg ttg aat aaa cag acc ctc aaa atg	992
Phe Val Gly Ser Phe Arg Gln Arg Leu Asn Lys Gln Thr Leu Lys Met	
265 270 275	
gtt ctc cag aaa gcc ctg cag gac act cct gag aca cct gaa aac atg	1040

Val Leu Gln Lys Ala Leu Gln Asp Thr Pro Glu Thr Pro Glu Asn Met  
 280 285 290

gtg gag atg tca aga aac aaa gca gag ccg tgatgaagag cctctgccta 1090  
 Val Glu Met Ser Arg Asn Lys Ala Glu Pro  
 295 300

gacttcagag gtggatttgg agtgagcact gccctgctgc acttgaccac tgtccactct 1150  
 cctctcagct tactgacttg acatgcctca ctggtccacc aacaccttcc aaagctctcc 1210  
 actgacttag tatttataacc tctcccaaac aatagcatta ttcaaaaact ataatttctg 1270  
 catccttctt tacattaata aaattcccat actaagtcca aa 1312

<210> 6  
 <211> 302  
 <212> PRT  
 <213> Mus musculus

<400> 6  
 Met Asn Glu Thr Ile Pro Gly Ser Ile Asp Ile Glu Thr Leu Ile Pro  
 1 5 10 15  
 Asp Leu Met Ile Ile Ile Phe Gly Leu Val Gly Leu Thr Gly Asn Ala  
 20 25 30  
 Ile Val Phe Trp Leu Leu Gly Phe Arg Met His Arg Thr Ala Phe Leu  
 35 40 45  
 Val Tyr Ile Leu Asn Leu Ala Leu Ala Asp Phe Leu Phe Leu Leu Cys  
 50 55 60  
 His Ile Ile Asn Ser Thr Val Asp Leu Leu Lys Phe Thr Leu Pro Lys  
 65 70 75 80  
 Gly Ile Phe Ala Phe Cys Phe His Thr Ile Lys Arg Val Leu Tyr Ile  
 85 90 95  
 Thr Gly Leu Ser Met Leu Ser Ala Ile Ser Thr Glu Arg Cys Leu Ser  
 100 105 110  
 Val Leu Cys Pro Ile Trp Tyr His Cys Arg Arg Pro Glu His Thr Ser  
 115 120 125  
 Thr Val Met Cys Ala Val Ile Trp Val Leu Ser Leu Leu Ile Cys Ile  
 130 135 140  
 Leu Asp Gly Tyr Phe Cys Gly Tyr Leu Asp Asn His Tyr Phe Asn Tyr  
 145 150 155 160  
 Ser Val Cys Gln Ala Trp Asp Ile Phe Ile Gly Ala Tyr Leu Met Phe  
 165 170 175  
 Leu Phe Val Val Leu Cys Leu Ser Thr Leu Ala Leu Leu Ala Arg Leu  
 180 185 190  
 Phe Cys Gly Ala Arg Asn Met Lys Phe Thr Arg Leu Phe Val Thr Ile  
 195 200 205  
 Met Leu Thr Val Leu Val Phe Leu Leu Cys Gly Leu Pro Trp Gly Ile  
 210 215 220  
 Thr Trp Phe Leu Leu Phe Trp Ile Ala Pro Gly Val Phe Val Leu Asp  
 225 230 235 240  
 Tyr Ser Pro Leu Leu Val Leu Thr Ala Ile Asn Ser Cys Ala Asn Pro  
 245 250 255  
 Ile Ile Tyr Phe Phe Val Gly Ser Phe Arg Gln Arg Leu Asn Lys Gln  
 260 265 270  
 Thr Leu Lys Met Val Leu Gln Lys Ala Leu Gln Asp Thr Pro Glu Thr  
 275 280 285  
 Pro Glu Asn Met Val Glu Met Ser Arg Asn Lys Ala Glu Pro  
 290 295 300



<210> 7  
 <211> 450  
 <212> DNA  
 <213> Mus musculus

<220>  
 <221> CDS  
 <222> (1)...(450)

<400> 7  
 ctg tgc cgg atc tgg tat cac tgc cgc cgc cca gaa cac aca tca act 48  
 Leu Cys Arg Ile Trp Tyr His Cys Arg Arg Pro Glu His Thr Ser Thr  
 1 5 10 15  
 gtc atg tgt gct gtc atc tgg gtc ctg tcc ctg ttg atc tgc att ctg 96  
 Val Met Cys Ala Val Ile Trp Val Leu Ser Leu Leu Ile Cys Ile Leu  
 20 25 30  
 aat agt tat ttc tgc ggt ttc tta aat acc caa tat aaa aat gaa aat 144  
 Asn Ser Tyr Phe Cys Gly Phe Leu Asn Thr Gln Tyr Lys Asn Glu Asn  
 35 40 45  
 ggg tgt ctg gca ttg agc ttc ttt act gct gca tac ctg atg ttt ttg 192  
 Gly Cys Leu Ala Leu Ser Phe Phe Thr Ala Ala Tyr Leu Met Phe Leu  
 50 55 60  
 ttt gtg gtc ctc tgt ctg tcc agc ctg gct ctg gtg gcc agg ttg ttc 240  
 Phe Val Val Leu Cys Leu Ser Ser Leu Ala Leu Val Ala Arg Leu Phe  
 65 70 75 80  
 tgt ggt gct agg aat atg aaa ttt acc aga tta ttc gtg acc atc atg 288  
 Cys Gly Ala Arg Asn Met Lys Phe Thr Arg Leu Phe Val Thr Ile Met  
 85 90 95  
 ctg acc gtt ttg gtt ttt ctt ctc tgt ggg ttg ccc tgg ggc atc acc 336  
 Leu Thr Val Leu Val Phe Leu Leu Cys Gly Leu Pro Trp Gly Ile Thr  
 100 105 110  
 tgg ttc ctg tta ttc tgg att gca cct ggt gtg ttt gta cta gat tat 384  
 Trp Phe Leu Leu Phe Trp Ile Ala Pro Gly Val Phe Val Leu Asp Tyr  
 115 120 125  
 agc cct ctt ctg gtc cta act gct att aac agc tgt gcc aac ccc att 432  
 Ser Pro Leu Leu Val Leu Thr Ala Ile Asn Ser Cys Ala Asn Pro Ile  
 130 135 140  
 att tac ttc ttc gtc ggc 450  
 Ile Tyr Phe Phe Val Gly  
 145 150

<210> 8  
 <211> 150  
 <212> PRT  
 <213> Mus musculus

<400> 8

Leu	Cys	Arg	Ile	Trp	Tyr	His	Cys	Arg	Arg	Pro	Glu	His	Thr	Ser	Thr
1				5					10					15	
Val	Met	Cys	Ala	Val	Ile	Trp	Val	Leu	Ser	Leu	Leu	Ile	Cys	Ile	Leu
			20					25					30		
Asn	Ser	Tyr	Phe	Cys	Gly	Phe	Leu	Asn	Thr	Gln	Tyr	Lys	Asn	Glu	Asn
		35					40					45			
Gly	Cys	Leu	Ala	Leu	Ser	Phe	Phe	Thr	Ala	Ala	Tyr	Leu	Met	Phe	Leu
	50					55					60				
Phe	Val	Val	Leu	Cys	Leu	Ser	Ser	Leu	Ala	Leu	Val	Ala	Arg	Leu	Phe
65					70					75					80
Cys	Gly	Ala	Arg	Asn	Met	Lys	Phe	Thr	Arg	Leu	Phe	Val	Thr	Ile	Met
				85					90					95	
Leu	Thr	Val	Leu	Val	Phe	Leu	Leu	Cys	Gly	Leu	Pro	Trp	Gly	Ile	Thr
			100						105					110	
Trp	Phe	Leu	Leu	Phe	Trp	Ile	Ala	Pro	Gly	Val	Phe	Val	Leu	Asp	Tyr
		115					120						125		
Ser	Pro	Leu	Leu	Val	Leu	Thr	Ala	Ile	Asn	Ser	Cys	Ala	Asn	Pro	Ile
	130					135						140			
Ile	Tyr	Phe	Phe	Val	Gly										
145					150										

<210> 9

<211> 459

<212> DNA

<213> Mus musculus

<220>

<221> CDS

<222> (1)...(459)

<400> 9

ctg	tgc	ccg	acg	tgg	tat	cgc	tgc	cac	cgt	cca	gta	cat	aca	tca	act	48
Leu	Cys	Pro	Thr	Trp	Tyr	Arg	Cys	His	Arg	Pro	Val	His	Thr	Ser	Thr	
1				5					10					15		
gtc	atg	tgt	gct	gtg	atc	tgg	gtc	cta	tcc	ctg	ttg	atc	tgc	att	ctg	96
Val	Met	Cys	Ala	Val	Ile	Trp	Val	Leu	Ser	Leu	Leu	Ile	Cys	Ile	Leu	
			20					25					30			
aat	agc	tat	ttc	tgt	gct	gtc	tta	cat	acc	aga	tat	gat	aat	gac	aat	144
Asn	Ser	Tyr	Phe	Cys	Ala	Val	Leu	His	Thr	Arg	Tyr	Asp	Asn	Asp	Asn	
		35					40					45				
gag	tgt	ctg	gca	act	aac	atc	ttt	acc	gcc	tcg	tac	atg	ata	ttt	ttg	192
Glu	Cys	Leu	Ala	Thr	Asn	Ile	Phe	Thr	Ala	Ser	Tyr	Met	Ile	Phe	Leu	
	50					55					60					
ctt	gtg	gtc	ctc	tgt	ctg	tcc	agc	ctg	gct	ctg	ctg	gcc	agg	ttg	ttc	240
Leu	Val	Val	Leu	Cys	Leu	Ser	Ser	Leu	Ala	Leu	Leu	Ala	Arg	Leu	Phe	
	65				70					75					80	
tgt	ggc	gct	ggg	cag	atg	aag	ctt	acc	aga	ttt	cat	gtg	acc	atc	ttg	288
Cys	Gly	Ala	Gly	Gln	Met	Lys	Leu	Thr	Arg	Phe	His	Val	Thr	Ile	Leu	
				85					90					95		

ctg acc ctt ttg gtt ttt ctc ctc tgc ggg ttg ccc ttt gtc atc tac 336  
 Leu Thr Leu Leu Val Phe Leu Leu Cys Gly Leu Pro Phe Val Ile Tyr  
 100 105 110

tgc atc ctg tta ttc aag att aag gat gat ttc cat gta tta gat gtt 384  
 Cys Ile Leu Leu Phe Lys Ile Lys Asp Asp Phe His Val Leu Asp Val  
 115 120 125

aat ctt tat cta gca tta gaa gtc ctg act gct att aac agc tgt gcc 432  
 Asn Leu Tyr Leu Ala Leu Glu Val Leu Thr Ala Ile Asn Ser Cys Ala  
 130 135 140

aac ccc atc atc tac ttc ttc gtc gga 459  
 Asn Pro Ile Ile Tyr Phe Phe Val Gly  
 145 150

<210> 10  
 <211> 153  
 <212> PRT  
 <213> Mus musculus

<400> 10  
 Leu Cys Pro Thr Trp Tyr Arg Cys His Arg Pro Val His Thr Ser Thr  
 1 5 10 15  
 Val Met Cys Ala Val Ile Trp Val Leu Ser Leu Leu Ile Cys Ile Leu  
 20 25 30  
 Asn Ser Tyr Phe Cys Ala Val Leu His Thr Arg Tyr Asp Asn Asp Asn  
 35 40 45  
 Glu Cys Leu Ala Thr Asn Ile Phe Thr Ala Ser Tyr Met Ile Phe Leu  
 50 55 60  
 Leu Val Val Leu Cys Leu Ser Ser Leu Ala Leu Leu Ala Arg Leu Phe  
 65 70 75 80  
 Cys Gly Ala Gly Gln Met Lys Leu Thr Arg Phe His Val Thr Ile Leu  
 85 90 95  
 Leu Thr Leu Leu Val Phe Leu Leu Cys Gly Leu Pro Phe Val Ile Tyr  
 100 105 110  
 Cys Ile Leu Leu Phe Lys Ile Lys Asp Asp Phe His Val Leu Asp Val  
 115 120 125  
 Asn Leu Tyr Leu Ala Leu Glu Val Leu Thr Ala Ile Asn Ser Cys Ala  
 130 135 140  
 Asn Pro Ile Ile Tyr Phe Phe Val Gly  
 145 150

<210> 11  
 <211> 2853  
 <212> DNA  
 <213> Mus musculus

<220>  
 <221> CDS  
 <222> (1820)...(2734)

<400> 11  
 caaggattct acaaaccctaa gtatgcaagt caacaatcta aatataattt gttccttttg 60  
 aagttagtgg ttcaatataa cagacaaata catcatgccc tgaaattagc tttgaacaat 120

gctaagccca taatgggaag taaaagattt gcttgggttc cactttcttc cttttctatt 180  
ccgtttggac catagtggct agtgtctctt acaagatcac aagaaggagg ctctgcattt 240  
atctctgagt gcctgtctgc atcctccttt ggcctggagg tcctctatga aatcctgaag 300  
taagaaagaa atgttccaga ctctgatttt tcttcctaga ccaatgctat tcccttccat 360  
gttgccaaca acttctcatc actctttctg tactttcttt tagctgggtg gtttcttaat 420  
ctacagtatt gactgtcatg tcaaagttgg gtattttttg gcttttagata tttcttctct 480  
ggcttttctc ccatccacac ataatacaaaa cactgagggtg atgacactaa gggactgctc 540  
aaaggaaaag ggtgggttcc tgggcttttg gggttattaat aatttgctg tcctctgcca 600  
gcctctatca actcccctaa aacacaaaaa taattgttcc tagcaggcaa gcacgacctg 660  
acaattaatt aatgatcata aaaagtgcac tataaacatc tgaaaacctc ataataaaac 720  
tcaacacctt atacagtgaag tatgttgtgg ggtctgcata aatccaacaa aactccaatg 780  
gagtgttact cagctattaa aaatgaggaa ttcacgaaat tcttagccaa atgattagaa 840  
gtagaaaata tgatcctgag tgagaaaaga acaggcttgg tatgtactca ctgataagtg 900  
gatactagcc caaaagctgc aaataatcag gataaaattc acagaccaca tgaacctcaa 960  
taagaaggaa gaccaaagta tgggcgtttc ggctcttctt agaaggagaa caaaatactc 1020  
ccaagagcaa atatggagat aaagtgtaga acaggcacta aaggaaaagt caccagaga 1080  
atgttccacc tggggattca tcccatatac agttaccaa cccagacact cttatggatg 1140  
ccaaggagtg aatgctgaca tagctgtttc ctaaggaggc atgccagaca cttacaaata 1200  
cagaggccca agtttagcaac caaccattag actgagcaca gggttcctaa tagaggagtc 1260  
agagaaagga ctgaggagtg tgaaggggtt tgcaccccca taagaaaaac aacaacatga 1320  
accaacaaga cactctcccc accaaccccc tgaactccta gggactaagc catcaacaaa 1380  
agagtacaca tggctccaga tgcataatgtt gcagaggatg gccatatcat gcattgatgg 1440  
aagaggctct tgaacctatg aagggttctat tgatgcccc a gtgtaaggga atcgagggca 1500  
gagaggtgga agtgggtgtg tgggttgagc aacaccctca cagaagcagg gggagggagg 1560  
atgagatggg gggttccagg aaggggggaa gcaggaaagg ggataacatt tttaaattaa 1620  
atatagaaaa tatccaatac aaaacatttt gaacaaacaa caaaaaactc acaaaaaaca 1680  
caacaacaaa aaaaagaaat taaaagttgt gttcatagtg aaggcctcat ttcttctttg 1740  
tggtcccgag aacaccagtg cagggtttct ggccctaaac acctcagcct cggcaatggc 1800  
accacaaca acaaatcca atg aac gaa acc atc cct gga agt att gac atc 1852

Met Asn Glu Thr Ile Pro Gly Ser Ile Asp Ile

1

5

10

gag acc ctg atc cca aac ttg atg atc atc atc ttc gga ctg gtc ggg 1900  
Glu Thr Leu Ile Pro Asn Leu Met Ile Ile Ile Phe Gly Leu Val Gly

15

20

25

ctg aca gga aat gtc att ttg ttt tgg ctc ctg ggc ttc cac ttg cac 1948  
Leu Thr Gly Asn Val Ile Leu Phe Trp Leu Leu Gly Phe His Leu His

30

35

40

agg aat gcc ttc tta gtc tac atc cta aac ttg gcc ctg gct gac ttc 1996  
Arg Asn Ala Phe Leu Val Tyr Ile Leu Asn Leu Ala Leu Ala Asp Phe

45

50

55

ctc ttc ctt ctc tgt cac atc ata aat tcc aca atg ctt ctt ctc aag 2044  
Leu Phe Leu Leu Cys His Ile Ile Asn Ser Thr Met Leu Leu Leu Lys

60

65

70

75

gtt cac cta ccc aac aat att ttg aac cat tgc ttt gac atc atc atg 2092  
Val His Leu Pro Asn Asn Ile Leu Asn His Cys Phe Asp Ile Ile Met

80

85

90

aca gtt ctc tac atc aca ggc ctg agc atg ctc agt gcc atc agc act 2140  
Thr Val Leu Tyr Ile Thr Gly Leu Ser Met Leu Ser Ala Ile Ser Thr

95

100

105

gag cgc tgc ctg tct gtc ctg tgc ccc atc tgg tat cgg tgc cgc cgc 2188

Glu	Arg	Cys	Leu	Ser	Val	Leu	Cys	Pro	Ile	Trp	Tyr	Arg	Cys	Arg	Arg		
		110					115					120					
cca	gaa	cac	aca	tca	act	gtc	ctg	tgt	gct	gtg	atc	tgg	ttc	ctg	ccc	2236	
Pro	Glu	His	Thr	Ser	Thr	Val	Leu	Cys	Ala	Val	Ile	Trp	Phe	Leu	Pro		
		125					130				135						
ctg	ttg	atc	tgc	att	ctg	aat	gga	tat	ttc	tgt	cat	ttc	ttt	ggt	ccc	2284	
Leu	Leu	Ile	Cys	Ile	Leu	Asn	Gly	Tyr	Phe	Cys	His	Phe	Phe	Gly	Pro		
		140				145				150					155		
aaa	tat	gta	att	gac	tct	gtg	tgt	ctg	gca	acg	aac	ttc	ttt	atc	aga	2332	
Lys	Tyr	Val	Ile	Asp	Ser	Val	Cys	Leu	Ala	Thr	Asn	Phe	Phe	Ile	Arg		
				160					165					170			
aca	tac	ccg	atg	ttt	ttg	ttt	ata	gtc	ctc	tgt	ctg	tcc	acc	ctg	gct	2380	
Thr	Tyr	Pro	Met	Phe	Leu	Phe	Ile	Val	Leu	Cys	Leu	Ser	Thr	Leu	Ala		
			175					180					185				
ctg	ctg	gcc	agg	ttg	ttc	tgt	ggt	ggt	ggg	aag	acg	aaa	ttt	acc	aga	2428	
Leu	Leu	Ala	Arg	Leu	Phe	Cys	Gly	Gly	Gly	Lys	Thr	Lys	Phe	Thr	Arg		
		190					195					200					
tta	ttc	gtg	acc	atc	atg	ctg	acc	gtt	ttg	gtt	ttt	ctt	ctc	tgt	ggg	2476	
Leu	Phe	Val	Thr	Ile	Met	Leu	Thr	Val	Leu	Val	Phe	Leu	Leu	Cys	Gly		
		205					210				215						
ttg	ccc	ctg	ggc	ttc	ttc	tgg	ttt	ctg	gtg	ccg	tgg	att	aac	cgt	gat	2524	
Leu	Pro	Leu	Gly	Phe	Phe	Trp	Phe	Leu	Val	Pro	Trp	Ile	Asn	Arg	Asp		
		220				225				230				235			
ttc	agt	gta	cta	gat	tat	ata	ctt	ttt	cag	aca	tca	ctt	gtc	cta	act	2572	
Phe	Ser	Val	Leu	Asp	Tyr	Ile	Leu	Phe	Gln	Thr	Ser	Leu	Val	Leu	Thr		
				240					245					250			
tct	gtt	aac	agc	tgt	gcc	aac	ccc	atc	att	tac	ttc	ttt	gtg	ggc	tcc	2620	
Ser	Val	Asn	Ser	Cys	Ala	Asn	Pro	Ile	Ile	Tyr	Phe	Phe	Val	Gly	Ser		
			255					260					265				
ttc	agg	cat	cgg	ttg	aag	cac	aag	acc	ctc	aaa	atg	gtt	ctc	cag	agt	2668	
Phe	Arg	His	Arg	Leu	Lys	His	Lys	Thr	Leu	Lys	Met	Val	Leu	Gln	Ser		
		270					275					280					
gca	ttg	cag	gac	act	cct	gag	aca	cct	gaa	aac	atg	gtg	gag	atg	tca	2716	
Ala	Leu	Gln	Asp	Thr	Pro	Glu	Thr	Pro	Glu	Asn	Met	Val	Glu	Met	Ser		
		285					290				295						
aga	agc	aaa	gca	gag	ccg	tgatgaagag	cctctacctg	gacctcagag								2764	
Arg	Ser	Lys	Ala	Glu	Pro												
		300			305												
gtggctttgg	attgagcaact	gccctgctgc	acttgaccac	tgtccactct	cctctcagct											2824	
tactgacttt	ggatgcctca	gtggtccaa														2853	

<210> 12  
 <211> 305  
 <212> PRT

<213> Mus musculus

<400> 12

Met Asn Glu Thr Ile Pro Gly Ser Ile Asp Ile Glu Thr Leu Ile Pro  
1 5 10 15  
Asn Leu Met Ile Ile Ile Phe Gly Leu Val Gly Leu Thr Gly Asn Val  
20 25 30  
Ile Leu Phe Trp Leu Leu Gly Phe His Leu His Arg Asn Ala Phe Leu  
35 40 45  
Val Tyr Ile Leu Asn Leu Ala Leu Ala Asp Phe Leu Phe Leu Leu Cys  
50 55 60  
His Ile Ile Asn Ser Thr Met Leu Leu Leu Lys Val His Leu Pro Asn  
65 70 75 80  
Asn Ile Leu Asn His Cys Phe Asp Ile Ile Met Thr Val Leu Tyr Ile  
85 90 95  
Thr Gly Leu Ser Met Leu Ser Ala Ile Ser Thr Glu Arg Cys Leu Ser  
100 105 110  
Val Leu Cys Pro Ile Trp Tyr Arg Cys Arg Arg Pro Glu His Thr Ser  
115 120 125  
Thr Val Leu Cys Ala Val Ile Trp Phe Leu Pro Leu Leu Ile Cys Ile  
130 135 140  
Leu Asn Gly Tyr Phe Cys His Phe Phe Gly Pro Lys Tyr Val Ile Asp  
145 150 155 160  
Ser Val Cys Leu Ala Thr Asn Phe Phe Ile Arg Thr Tyr Pro Met Phe  
165 170 175  
Leu Phe Ile Val Leu Cys Leu Ser Thr Leu Ala Leu Leu Ala Arg Leu  
180 185 190  
Phe Cys Gly Gly Lys Thr Lys Phe Thr Arg Leu Phe Val Thr Ile  
195 200 205  
Met Leu Thr Val Leu Val Phe Leu Leu Cys Gly Leu Pro Leu Gly Phe  
210 215 220  
Phe Trp Phe Leu Val Pro Trp Ile Asn Arg Asp Phe Ser Val Leu Asp  
225 230 235 240  
Tyr Ile Leu Phe Gln Thr Ser Leu Val Leu Thr Ser Val Asn Ser Cys  
245 250 255  
Ala Asn Pro Ile Ile Tyr Phe Phe Val Gly Ser Phe Arg His Arg Leu  
260 265 270  
Lys His Lys Thr Leu Lys Met Val Leu Gln Ser Ala Leu Gln Asp Thr  
275 280 285  
Pro Glu Thr Pro Glu Asn Met Val Glu Met Ser Arg Ser Lys Ala Glu  
290 295 300  
Pro  
305

<210> 13

<211> 3391

<212> DNA

<213> Mus musculus

<220>

<221> CDS

<222> (170)...(574)

<400> 13

ccgaaaacca acaaaataga accgcgggtg cctttctcca gctgggatga aggacttgag 60  
cagaaactca ttgccagctt cctccctacg cgagagccga ctgagtccca ggtccccagt 120

cttcccccg gacgttgtgc acggtgccca ttcttgagca gccacaaca atg gag gtg 178  
Met Glu Val  
1

ctc ccc aag gcc ctg gag gta gac gag agg tct cca gag tcc aag gac 226  
Leu Pro Lys Ala Leu Glu Val Asp Glu Arg Ser Pro Glu Ser Lys Asp  
5 10 15

ctg ctg ccc agc cag aca gcc agc tcc ctg tgc atc agt tcc aga agt 274  
Leu Leu Pro Ser Gln Thr Ala Ser Ser Leu Cys Ile Ser Ser Arg Ser  
20 25 30 35

gag tct gtc tgg acc acc aca ccc aaa agc aac tgg gaa atc tac cac 322  
Glu Ser Val Trp Thr Thr Thr Pro Lys Ser Asn Trp Glu Ile Tyr His  
40 45 50

aag ccc atc atc atc atg tca gtg gga gct gcc att ctg ctc ttt ggc 370  
Lys Pro Ile Ile Ile Met Ser Val Gly Ala Ala Ile Leu Leu Phe Gly  
55 60 65

gtg gcc atc acc tgt gtg gcc tac atc ttg gaa gag aag cat aaa gtt 418  
Val Ala Ile Thr Cys Val Ala Tyr Ile Leu Glu Glu Lys His Lys Val  
70 75 80

gtg caa gtg ctc agg atg ata ggg cct gcc ttc ctg tcc ctg gga ctc 466  
Val Gln Val Leu Arg Met Ile Gly Pro Ala Phe Leu Ser Leu Gly Leu  
85 90 95

atg atg ctg gtg tgt ggg ctg gtg tgg gtc ccc ata atc aaa aag aag 514  
Met Met Leu Val Cys Gly Leu Val Trp Val Pro Ile Ile Lys Lys Lys  
100 105 110 115

cag aag caa agg cag aag tcc aac ttc ttc caa agc ctc aag ttc ttc 562  
Gln Lys Gln Arg Gln Lys Ser Asn Phe Phe Gln Ser Leu Lys Phe Phe  
120 125 130

ctc ctg aac cgc tgatgactgg ttgtccagaa gatctgctaa ccaataagca 614  
Leu Leu Asn Arg  
135

gcctcctacc ttctcttcgg gtaccacaaa gttgatccag gcaaaccctc ctcttgggccc 674  
tgtggacagg atagagctca gggcttcacc ctcatacaac ctacgacat tgctgactga 734  
gtctcacctg gtttccatag ctgtggatgc tgtgcccttg gatactttca ttaccctcat 794  
ccctggcacc tgcattcagc catcagccat cccattctct ctgccaaggg caatgtgtgc 854  
atgctaggaa attctttggg ggttgactac attcccaagg agaacttgta tgttacgggtt 914  
gtgtgcctga tcttagattc ccatctacat ccttctggaa ccaaaagtga ccaagcagat 974  
aaggctgact tcagtcccat tgggtttgac agccttggct ccctccttgg atgggacatt 1034  
gactaacatt acaagagaaa ggatatgtct catgtatcac acattccaaa atctggacag 1094  
tgatggggct gggggtgagg gaaacactgt ctagagtaaa ccattcctct gggagtaatc 1154  
tggaacttat acagtgaagg aagttagctc ctaaatatat gatattggca caagaggcaa 1214  
tatgcaggct aagaggtatc aacacttccc cttgatcctc caatgcgctt cttgcagaat 1274  
gcctttatat tagcaattag ccaagaacaa atgctctttg ttctaacttc cttccccacc 1334  
acatctctgc gtctacacag ctccagaaca gaaggacggg aggccacaga tgtgacctgt 1394  
aagatcatct ccttctcctg tcaatcaaga cctaacctga aattgaatgc catgtccgac 1454  
tcacgctgca tggggtttta gagataggtt cactggaaaa aaggaaatct cagcctccct 1514  
cctccctgtt cctccctacc aaacaagcaa gtatttattg agtttccttc tctaggccta 1574  
cgttgggaac agccagacc agtctctgat gtcattcttat ttccaaaagt gaaagaggga 1634

```

aaaacatggc caagccaact ggcaatactc catactgagt tcttaggggtg gccatgggaa 1694
cacatggatc taacaaatgt acaggaagat agatttctgg agaccatgtt cacccttct 1754
gaatatgaag ggggaaggaag tgtttggaat gagcaagatg tgcaaggtag tcagcaactg 1814
ccttgcatgt ggagaagcta aggggaaaga gacagggtgg ggtaggatt ccgcatagct 1874
cccgatgct attccatcct ctcttgcccta cttccccct gcttccccag gtacctaca 1934
tccagctact ccttggtaca ctgcaggctt ctggggtcaa tagggactgg gaggggcatc 1994
tccagagggc ctaacaagta gatataaccc aagaggtaa tagcctcaa acttcattat 2054
agtcaccaag acacctttag gcaaaagacc gggcacctat aagaaatttc caaagctgtt 2114
ccaggcaagg ccaggccaga gagcagagga aggtacctag tagcaaagt aatgacaaga 2174
gctgcattgg ttcaggttga ctcttcaccc ttaacctttg ggcatgtgg aacactatgg 2234
caaacaacct ccaacaggtc tccagatata tcaaccattc acagtacttc tataggcagt 2294
tagaatccac cacctttgtt cctgttgcat tgtgggacat tcctcggagg aagtatttgt 2354
tttgtggaat caacacacac acacacacgc acagagagag agagagagag agagagagag 2414
agagagagag agagagagag agagaaagaa agagaaagaa agaaagaaag agaaagagac 2474
tgactcccta actaaaaagt cagagtttgg gaagcctgtg gcctttcaaa gctcacttaa 2534
gaatatcatg ttcctcatta agactcacat catcgagccc aggcctgca gtccaccat 2594
tccctgaata caggcagctc aggaccaacc ctggggttgt tgaaatactg cctagtgtt 2654
ccacgaatgt ctaatgcctc catgacaggg ctttcagacc actcctttct cctgacatgg 2714
aaggacagcc ctggggtgga gcctctcaat cttctgtgcc ttcataaaag ggaacacaca 2774
gatgagctca cagccagctc acttggaatc cgcaccccat gcacctcatt gtcctgagag 2834
ctcattgtct gggcacagct gtgggaagac ctttgcagat ctcactttca agtatgtctc 2894
aacagaaggg agtttgggga taatcacgat gccaggaaat cttcaagttc tagacatctt 2954
tcatagccac atcagtacct gttccccaac cctgcccct caaggtaaagt acttagcaaa 3014
caaaatcaaa gagcctttga gaaaatatcc caaatactgg ttaactcccc cggccttgca 3074
ccaaactccc cacaaaagt atagtcagga agtgagcaga gtcacacca acatcttgga 3134
aaattttgcc aaagaccatt gcctcatgaa aactgggggtg gggataacct gtgagtgcag 3194
ccgggttgga tgccgtgtct ctgcaacaaa gcattctggg tagtgatttc agtcatctca 3254
gaagacaaga gcaacatcca cagcaccatc ccaccggact gtattacggg cttctgtcgc 3314
tcttctgttt tggagaattt aatctaacc aacgcctaag ggaatcaatg tcgtattgaa 3374
ctgtattctg tttaaaa 3391

```

<210> 14

<211> 135

<212> PRT

<213> Mus musculus

<400> 14

```

Met Glu Val Leu Pro Lys Ala Leu Glu Val Asp Glu Arg Ser Pro Glu
  1              5              10              15
Ser Lys Asp Leu Leu Pro Ser Gln Thr Ala Ser Ser Leu Cys Ile Ser
          20              25              30
Ser Arg Ser Glu Ser Val Trp Thr Thr Thr Pro Lys Ser Asn Trp Glu
      35              40              45
Ile Tyr His Lys Pro Ile Ile Ile Met Ser Val Gly Ala Ala Ile Leu
      50              55              60
Leu Phe Gly Val Ala Ile Thr Cys Val Ala Tyr Ile Leu Glu Glu Lys
      65              70              75              80
His Lys Val Val Gln Val Leu Arg Met Ile Gly Pro Ala Phe Leu Ser
          85              90              95
Leu Gly Leu Met Met Leu Val Cys Gly Leu Val Trp Val Pro Ile Ile
          100              105              110
Lys Lys Lys Gln Lys Gln Arg Gln Lys Ser Asn Phe Phe Gln Ser Leu
          115              120              125
Lys Phe Phe Leu Leu Asn Arg
      130              135

```



<210> 15  
<211> 2040  
<212> DNA  
<213> Homo sapiens

<220>  
<221> CDS  
<222> (328)...(1293)

<400> 15  
gccagagata gagtaatcat cgggtccaca gccctggcta gatgagtggg ggtgttttga 60  
tcctaagtgt attcccatgt tagcacagaa cttgtgtggc agtagagaga ggtcaggctt 120  
cagagtcagc aagaactgga tttcaaactg gatttgagga cccccacctt ttgatagggtg 180  
acttattctc tgtgagtctc tgatctgccc tctttaaatg aggaagtata tcccacatgg 240  
cagggtgggtg gggagaatca gagatcatac agctgggtgat cacaactggg ttctgtttcc 300  
agggtcacca gactagggtt tctgagc atg gat cca acc atc tca acc ttg gac 354  
Met Asp Pro Thr Ile Ser Thr Leu Asp  
1 5

aca gaa ctg aca cca atc aac gga act gag gag act ctt tgc tac aag 402  
Thr Glu Leu Thr Pro Ile Asn Gly Thr Glu Glu Thr Leu Cys Tyr Lys  
10 15 20 25

cag acc ttg agc ctc acg gtg ctg acg tgc atc gtt tcc ctt gtc ggg 450  
Gln Thr Leu Ser Leu Thr Val Leu Thr Cys Ile Val Ser Leu Val Gly  
30 35 40

ctg aca gga aac gca gtt gtg ctc tgg ctc ctg ggc tgc cgc atg cgc 498  
Leu Thr Gly Asn Ala Val Val Leu Trp Leu Leu Gly Cys Arg Met Arg  
45 50 55

agg aac gcc ttc tcc atc tac atc ctc aac ttg gcc gca gca gac ttc 546  
Arg Asn Ala Phe Ser Ile Tyr Ile Leu Asn Leu Ala Ala Ala Asp Phe  
60 65 70

ctc ttc ctc agc ggc cgc ctt ata tat tcc ctg tta agc ttc atc agt 594  
Leu Phe Leu Ser Gly Arg Leu Ile Tyr Ser Leu Leu Ser Phe Ile Ser  
75 80 85

atc ccc cat acc atc tct aaa atc ctc tat cct gtg atg atg ttt tcc 642  
Ile Pro His Thr Ile Ser Lys Ile Leu Tyr Pro Val Met Met Phe Ser  
90 95 100 105

tac ttt gca ggc ctg agc ttt ctg agt gcc gtg agc acc gag cgc tgc 690  
Tyr Phe Ala Gly Leu Ser Phe Leu Ser Ala Val Ser Thr Glu Arg Cys  
110 115 120

ctg tcc gtc ctg tgg ccc atc tgg tac cgc tgc cac cgc ccc aca cac 738  
Leu Ser Val Leu Trp Pro Ile Trp Tyr Arg Cys His Arg Pro Thr His  
125 130 135

ctg tca gcg gtg gtg tgt gtc ctg ctc tgg gcc ctg tcc ctg ctg cgg 786  
Leu Ser Ala Val Val Cys Val Leu Leu Trp Ala Leu Ser Leu Leu Arg  
140 145 150

agc atc ctg gag tgg atg tta tgt ggc ttc ctg ttc agt ggt gct gat 834  
Ser Ile Leu Glu Trp Met Leu Cys Gly Phe Leu Phe Ser Gly Ala Asp

155	160	165	
tct gct tgg tgt caa aca tca gat ttc atc aca gtc gcg tgg ctg att			882
Ser Ala Trp Cys Gln Thr Ser Asp Phe Ile Thr Val Ala Trp Leu Ile			
170	175	180	185
ttt tta tgt gtg gtt ctc tgt ggg tcc agc ctg gtc ctg ctg atc agg			930
Phe Leu Cys Val Val Leu Cys Gly Ser Ser Leu Val Leu Leu Ile Arg			
	190	195	200
att ctc tgt gga tcc cgg aag ata ccg ctg acc agg ctg tac gtg acc			978
Ile Leu Cys Gly Ser Arg Lys Ile Pro Leu Thr Arg Leu Tyr Val Thr			
	205	210	215
atc ctg ctc aca gta ctg gtc ttc ctc ctc tgt ggc ctg ccc ttt ggc			1026
Ile Leu Leu Thr Val Leu Val Phe Leu Leu Cys Gly Leu Pro Phe Gly			
	220	225	230
att cag ttt ttc cta ttt tta tgg atc cac gtg gac agg gaa gtc tta			1074
Ile Gln Phe Phe Leu Phe Leu Trp Ile His Val Asp Arg Glu Val Leu			
	235	240	245
ttt tgt cat gtt cat cta gtt tct att ttc ctg tcc gct ctt aac agc			1122
Phe Cys His Val His Leu Val Ser Ile Phe Leu Ser Ala Leu Asn Ser			
	250	255	260
agt gcc aac ccc atc att tac ttc ttc gtg ggc tcc ttt agg cag cgt			1170
Ser Ala Asn Pro Ile Ile Tyr Phe Phe Val Gly Ser Phe Arg Gln Arg			
	270	275	280
caa aat agg cag aac ctg aag ctg gtt ctc cag agg gct ctg cag gac			1218
Gln Asn Arg Gln Asn Leu Lys Leu Val Leu Gln Arg Ala Leu Gln Asp			
	285	290	295
gcg tct gag gtg gat gaa ggt gga ggg cag ctt cct gag gaa atc ctg			1266
Ala Ser Glu Val Asp Glu Gly Gly Gly Gln Leu Pro Glu Glu Ile Leu			
	300	305	310
gag ctg tcg gga agc aga ttg gag cag tgaggaagag cctctgccct			1313
Glu Leu Ser Gly Ser Arg Leu Glu Gln			
	315	320	
gtcagacagg actttgagag caacactgcc ctgccaccct tgacaattat atgcgttttt			1373
cttagccttc tgcctcagaa atgtctcagt ggttcctcaa ggtcttcaaa tagatgttta			1433
tctaacctga cagttgcggt tttcaccat ggaaagcatt agtctgacag tacaatgttt			1493
agattctcct tgatattacc aacacatttt ccctgttatc tcacactgaa tctttcctac			1553
agaacacttt ttctgcaatt ttctttgtaa taaaaggagt tcctgtacaa aaccctaaaa			1613
cactctttat acttctttcc tacctgatag catcaaaaag gaagattcct tattaatctc			1673
tcagactatg ttcccctgaa aatcatgttc ccttctatga ctggaggcat tactgcagtt			1733
agaagctcga ttcttaataa gtgagttctg ctatctctac attccattga attctcagat			1793
acagagcaaa ataatgtcct tagagacaga ctctctcttc ataaaaacac tctcacctat			1853
tggttttata aaaagtcttc ccctgtcatt tggtcacagc atggtgatat gttggccttg			1913
gtttctagta aagacaactg tggcccttc cccttgagaa cttttaagtg cttatttagc			1973
tcttctgga ctaatggacc agtgaggagc ccataaatgt gcccagttc tattttggcc			2033
attggaa			2040

<211> 322  
<212> PRT  
<213> Homo sapiens

<400> 16

Met	Asp	Pro	Thr	Ile	Ser	Thr	Leu	Asp	Thr	Glu	Leu	Thr	Pro	Ile	Asn
1				5					10					15	
Gly	Thr	Glu	Glu	Thr	Leu	Cys	Tyr	Lys	Gln	Thr	Leu	Ser	Leu	Thr	Val
		20						25					30		
Leu	Thr	Cys	Ile	Val	Ser	Leu	Val	Gly	Leu	Thr	Gly	Asn	Ala	Val	Val
		35					40					45			
Leu	Trp	Leu	Leu	Gly	Cys	Arg	Met	Arg	Arg	Asn	Ala	Phe	Ser	Ile	Tyr
	50					55				60					
Ile	Leu	Asn	Leu	Ala	Ala	Ala	Asp	Phe	Leu	Phe	Leu	Ser	Gly	Arg	Leu
65					70					75					80
Ile	Tyr	Ser	Leu	Leu	Ser	Phe	Ile	Ser	Ile	Pro	His	Thr	Ile	Ser	Lys
			85						90					95	
Ile	Leu	Tyr	Pro	Val	Met	Met	Phe	Ser	Tyr	Phe	Ala	Gly	Leu	Ser	Phe
			100					105					110		
Leu	Ser	Ala	Val	Ser	Thr	Glu	Arg	Cys	Leu	Ser	Val	Leu	Trp	Pro	Ile
		115					120					125			
Trp	Tyr	Arg	Cys	His	Arg	Pro	Thr	His	Leu	Ser	Ala	Val	Val	Cys	Val
	130					135					140				
Leu	Leu	Trp	Ala	Leu	Ser	Leu	Leu	Arg	Ser	Ile	Leu	Glu	Trp	Met	Leu
145					150					155					160
Cys	Gly	Phe	Leu	Phe	Ser	Gly	Ala	Asp	Ser	Ala	Trp	Cys	Gln	Thr	Ser
			165						170					175	
Asp	Phe	Ile	Thr	Val	Ala	Trp	Leu	Ile	Phe	Leu	Cys	Val	Val	Leu	Cys
			180					185					190		
Gly	Ser	Ser	Leu	Val	Leu	Leu	Ile	Arg	Ile	Leu	Cys	Gly	Ser	Arg	Lys
		195					200					205			
Ile	Pro	Leu	Thr	Arg	Leu	Tyr	Val	Thr	Ile	Leu	Leu	Thr	Val	Leu	Val
	210					215					220				
Phe	Leu	Leu	Cys	Gly	Leu	Pro	Phe	Gly	Ile	Gln	Phe	Phe	Leu	Phe	Leu
225					230					235					240
Trp	Ile	His	Val	Asp	Arg	Glu	Val	Leu	Phe	Cys	His	Val	His	Leu	Val
			245						250					255	
Ser	Ile	Phe	Leu	Ser	Ala	Leu	Asn	Ser	Ser	Ala	Asn	Pro	Ile	Ile	Tyr
		260						265					270		
Phe	Phe	Val	Gly	Ser	Phe	Arg	Gln	Arg	Gln	Asn	Arg	Gln	Asn	Leu	Lys
		275					280					285			
Leu	Val	Leu	Gln	Arg	Ala	Leu	Gln	Asp	Ala	Ser	Glu	Val	Asp	Glu	Gly
	290					295					300				
Gly	Gly	Gln	Leu	Pro	Glu	Glu	Ile	Leu	Glu	Leu	Ser	Gly	Ser	Arg	Leu
305					310					315					320
Glu	Gln														

<210> 17  
<211> 1300  
<212> DNA  
<213> Homo sapiens

<220>  
<221> CDS  
<222> (171)...(1160)

<400> 17

tccctggccc ttaataaatg acttaatctc ttcaagcctc tgatttcctc tcctgtaaaa 60  
caggggcggt aattaccaca taacaggctg gtcattgaaaa tcagtgaaca tgcagcaggt 120  
gctcaagtct tgtttttgtt tccaggggca ccagtggagg ttttctgagc atg gat 176

Met Asp

1

cca acc acc ccg gcc tgg gga aca gaa agt aca aca gtg aat gga aat 224  
Pro Thr Thr Pro Ala Trp Gly Thr Glu Ser Thr Thr Val Asn Gly Asn  
5 10 15

gac caa gcc ctt ctt ctg ctt tgt ggc aag gag acc ctg atc ccg gtc 272  
Asp Gln Ala Leu Leu Leu Leu Cys Gly Lys Glu Thr Leu Ile Pro Val  
20 25 30

ttc ctg atc ctt ttc att gcc ctg gtc ggg ctg gta gga aac ggg ttt 320  
Phe Leu Ile Leu Phe Ile Ala Leu Val Gly Leu Val Gly Asn Gly Phe  
35 40 45 50

gtg ctc tgg ctc ctg ggc ttc cgc atg cgc agg aac gcc ttc tct gtc 368  
Val Leu Trp Leu Leu Gly Phe Arg Met Arg Arg Asn Ala Phe Ser Val  
55 60 65

tac gtc ctc agc ctg gcc ggg gcc gac ttc ctc ttc ctc tgc ttc cag 416  
Tyr Val Leu Ser Leu Ala Gly Ala Asp Phe Leu Phe Leu Cys Phe Gln  
70 75 80

att ata aat tgc ctg gtg tac ctc agt aac ttc ttc tgt tcc atc tcc 464  
Ile Ile Asn Cys Leu Val Tyr Leu Ser Asn Phe Phe Cys Ser Ile Ser  
85 90 95

atc aat ttc cct agc ttc ttc acc act gtg atg acc tgt gcc tac ctt 512  
Ile Asn Phe Pro Ser Phe Phe Thr Thr Val Met Thr Cys Ala Tyr Leu  
100 105 110

gca ggc ctg agc atg ctg agc acc gtc agc acc gag cgc tgc ctg tcc 560  
Ala Gly Leu Ser Met Leu Ser Thr Val Ser Thr Glu Arg Cys Leu Ser  
115 120 125 130

gtc ctg tgg ccc atc tgg tat cgc tgc cgc cgc ccc aga cac ctg tca 608  
Val Leu Trp Pro Ile Trp Tyr Arg Cys Arg Arg Pro Arg His Leu Ser  
135 140 145

gcg gtc gtg tgt gtc ctg ctc tgg gcc ctg tcc cta ctg ctg agc atc 656  
Ala Val Val Cys Val Leu Leu Trp Ala Leu Ser Leu Leu Leu Ser Ile  
150 155 160

ttg gaa ggg aag ttc tgt ggc ttc tta ttt agt gat ggt gac tct ggt 704  
Leu Glu Gly Lys Phe Cys Gly Phe Leu Phe Ser Asp Gly Asp Ser Gly  
165 170 175

tgg tgt cag aca ttt gat ttc atc act gca gcg tgg ctg att ttt tta 752  
Trp Cys Gln Thr Phe Asp Phe Ile Thr Ala Ala Trp Leu Ile Phe Leu  
180 185 190

ttc atg gtt ctc tgt ggg tcc agt ctg gcc ctg ctg gtc agg atc ctc 800

Phe Met Val Leu Cys Gly Ser Ser Leu Ala Leu Leu Val Arg Ile Leu  
195 200 205 210

tgt ggc tcc agg ggt ctg cca ctg acc agg ctg tac ctg acc atc ctg 848  
Cys Gly Ser Arg Gly Leu Pro Leu Thr Arg Leu Tyr Leu Thr Ile Leu  
215 220 225

ctc aca gtg ctg gtg ttc ctc ctc tgc ggc ctg ccc ttt ggc att cag 896  
Leu Thr Val Leu Val Phe Leu Leu Cys Gly Leu Pro Phe Gly Ile Gln  
230 235 240

tgg ttc cta ata tta tgg atc tgg aag gat tct gat gtc tta ttt tgt 944  
Trp Phe Leu Ile Leu Trp Ile Trp Lys Asp Ser Asp Val Leu Phe Cys  
245 250 255

cat att cat cca gtt tca gtt gtc ctg tca tct ctt aac agc agt gcc 992  
His Ile His Pro Val Ser Val Val Leu Ser Ser Leu Asn Ser Ser Ala  
260 265 270

aac ccc atc att tac ttc ttc gtg ggc tct ttt agg aag cag tgg cgg 1040  
Asn Pro Ile Ile Tyr Phe Phe Val Gly Ser Phe Arg Lys Gln Trp Arg  
275 280 285 290

ctg cag cag ccg atc ctc aag ctg gct ctc cag agg gct ctg cag gac 1088  
Leu Gln Gln Pro Ile Leu Lys Leu Ala Leu Gln Arg Ala Leu Gln Asp  
295 300 305

att gct gag gtg gat cac agt gaa gga tgc ttc cgt cag ggc acc ccg 1136  
Ile Ala Glu Val Asp His Ser Glu Gly Cys Phe Arg Gln Gly Thr Pro  
310 315 320

gag atg tcg aga agc agt ctg gtg tagagatgga cagcctctac ttccatcaga 1190  
Glu Met Ser Arg Ser Ser Leu Val  
325 330

tatatgtggc tttgagaggc aactttgccc ctgtctgtct gatttgctga actttctcag 1250  
tcctgatttt aaaacagtta agagagtcct tgtgaggatt aagtgagaca 1300

<210> 18  
<211> 330  
<212> PRT  
<213> Homo sapiens

<400> 18  
Met Asp Pro Thr Thr Pro Ala Trp Gly Thr Glu Ser Thr Thr Val Asn  
1 5 10 15  
Gly Asn Asp Gln Ala Leu Leu Leu Leu Cys Gly Lys Glu Thr Leu Ile  
20 25 30  
Pro Val Phe Leu Ile Leu Phe Ile Ala Leu Val Gly Leu Val Gly Asn  
35 40 45  
Gly Phe Val Leu Trp Leu Leu Gly Phe Arg Met Arg Arg Asn Ala Phe  
50 55 60  
Ser Val Tyr Val Leu Ser Leu Ala Gly Ala Asp Phe Leu Phe Leu Cys  
65 70 75 80  
Phe Gln Ile Ile Asn Cys Leu Val Tyr Leu Ser Asn Phe Phe Cys Ser  
85 90 95  
Ile Ser Ile Asn Phe Pro Ser Phe Phe Thr Thr Val Met Thr Cys Ala



<210> 20  
<211> 970  
<212> DNA  
<213> Mus musculus

<220>  
<221> CDS  
<222> (83)...(943)

<400> 20  
gtgtcaccaa cagcaccac aacaaatcca atggacaaac ctctttggaa gtatggacat 60  
ctggattctg acccgaaact ag atg atc atc ata ttc aga ctg gtt ggg atg 112  
Met Ile Ile Ile Phe Arg Leu Val Gly Met  
1 5 10

aca gga aat gcc att gtg ttc tgg ctc ctg ggc ttc agc ttg cac agg 160  
Thr Gly Asn Ala Ile Val Phe Trp Leu Leu Gly Phe Ser Leu His Arg  
15 20 25

aat gcc ttc tca gtc tac att tta aac ttg gcc ctt gct gac ttc gtc 208  
Asn Ala Phe Ser Val Tyr Ile Leu Asn Leu Ala Leu Ala Asp Phe Val  
30 35 40

ttc ctc ctc tgt cac atc ata gat tcc atg ctg ctt ctt ctc act gtt 256  
Phe Leu Leu Cys His Ile Ile Asp Ser Met Leu Leu Leu Leu Thr Val  
45 50 55

ttc tac ccc aac aat atc ttt tct ggg tac ttt tac acc atc atg acg 304  
Phe Tyr Pro Asn Asn Ile Phe Ser Gly Tyr Phe Tyr Thr Ile Met Thr  
60 65 70

gtt ccc tac atc gca ggc ctg agc atg ctc agt gcc atc agc act gag 352  
Val Pro Tyr Ile Ala Gly Leu Ser Met Leu Ser Ala Ile Ser Thr Glu  
75 80 85 90

ctc tgc ctg tct gtc ctg tgc ccc atc tgg tat cgc tgc cac cac cca 400  
Leu Cys Leu Ser Val Leu Cys Pro Ile Trp Tyr Arg Cys His His Pro  
95 100 105

gaa cac aca tca act gtc atg tgt gct gcg ata tgg gtc ctg ccc ctg 448  
Glu His Thr Ser Thr Val Met Cys Ala Ala Ile Trp Val Leu Pro Leu  
110 115 120

ttg gtc tgc att ctg aat agg tat ttc tgc agt ttc tta gat atc aat 496  
Leu Val Cys Ile Leu Asn Arg Tyr Phe Cys Ser Phe Leu Asp Ile Asn  
125 130 135

tat aac aat gac aaa cag tgt ctg gca tca aac ttc ttt act aga gca 544  
Tyr Asn Asn Asp Lys Gln Cys Leu Ala Ser Asn Phe Phe Thr Arg Ala  
140 145 150

tac ctg atg ttt ttg ttt gtg gtc ctt tgt ctg tcc agc atg gct ctg 592  
Tyr Leu Met Phe Leu Phe Val Val Leu Cys Leu Ser Ser Met Ala Leu  
155 160 165 170

ctg gcc agg ttg ttc tgt ggc act ggg cag atg aag ctt acc aga ttg 640  
Leu Ala Arg Leu Phe Cys Gly Thr Gly Gln Met Lys Leu Thr Arg Leu

175										180					185					
tac	gtg	acc	atc	atg	ctg	act	ggt	ttg	ggt	ttt	ctc	ctc	tgt	ggg	ttg	688				
Tyr	Val	Thr	Ile	Met	Leu	Thr	Val	Leu	Gly	Phe	Leu	Leu	Cys	Gly	Leu					
			190					195					200							
ccc	ttt	gtc	atc	tac	tac	ttc	ctg	tta	ttc	aat	att	aag	gat	ggt	ttt	736				
Pro	Phe	Val	Ile	Tyr	Tyr	Phe	Leu	Leu	Phe	Asn	Ile	Lys	Asp	Gly	Phe					
		205					210					215								
tgt	tta	ttt	gat	ttt	aga	ttt	tat	atg	tca	aca	cat	gtc	ctg	act	gct	784				
Cys	Leu	Phe	Asp	Phe	Arg	Phe	Tyr	Met	Ser	Thr	His	Val	Leu	Thr	Ala					
	220					225					230									
att	aac	aac	tgt	gcc	aac	ccc	ata	att	tac	ttt	ttc	gag	ggc	tcc	ttc	832				
Ile	Asn	Asn	Cys	Ala	Asn	Pro	Ile	Ile	Tyr	Phe	Phe	Glu	Gly	Ser	Phe					
	235				240					245					250					
agg	cat	cag	ttg	aag	cac	cag	acc	ctc	aaa	atg	ggt	ctc	cag	agt	gta	880				
Arg	His	Gln	Leu	Lys	His	Gln	Thr	Leu	Lys	Met	Val	Leu	Gln	Ser	Val					
			255					260					265							
ctg	cag	gac	act	cct	gag	ata	gct	gaa	aat	atg	gtg	gag	atg	tca	aga	928				
Leu	Gln	Asp	Thr	Pro	Glu	Ile	Ala	Glu	Asn	Met	Val	Glu	Met	Ser	Arg					
			270					275					280							
aac	ata	cca	aag	cca	tgatgaaaag	cctttgcctg	gacctca									970				
Asn	Ile	Pro	Lys	Pro																
			285																	

<210> 21  
 <211> 287  
 <212> PRT  
 <213> Mus musculus

<400> 21  
 Met Ile Ile Ile Phe Arg Leu Val Gly Met Thr Gly Asn Ala Ile Val  
 1 5 10 15  
 Phe Trp Leu Leu Gly Phe Ser Leu His Arg Asn Ala Phe Ser Val Tyr  
 20 25 30  
 Ile Leu Asn Leu Ala Leu Ala Asp Phe Val Phe Leu Leu Cys His Ile  
 35 40 45  
 Ile Asp Ser Met Leu Leu Leu Thr Val Phe Tyr Pro Asn Asn Ile  
 50 55 60  
 Phe Ser Gly Tyr Phe Tyr Thr Ile Met Thr Val Pro Tyr Ile Ala Gly  
 65 70 75 80  
 Leu Ser Met Leu Ser Ala Ile Ser Thr Glu Leu Cys Leu Ser Val Leu  
 85 90 95  
 Cys Pro Ile Trp Tyr Arg Cys His His Pro Glu His Thr Ser Thr Val  
 100 105 110  
 Met Cys Ala Ala Ile Trp Val Leu Pro Leu Leu Val Cys Ile Leu Asn  
 115 120 125  
 Arg Tyr Phe Cys Ser Phe Leu Asp Ile Asn Tyr Asn Asn Asp Lys Gln  
 130 135 140  
 Cys Leu Ala Ser Asn Phe Phe Thr Arg Ala Tyr Leu Met Phe Leu Phe  
 145 150 155 160



Val	Val	Leu	Cys	Leu	Ser	Ser	Met	Ala	Leu	Leu	Ala	Arg	Leu	Phe	Cys	
				165					170					175		
Gly	Thr	Gly	Gln	Met	Lys	Leu	Thr	Arg	Leu	Tyr	Val	Thr	Ile	Met	Leu	
			180					185					190			
Thr	Val	Leu	Gly	Phe	Leu	Leu	Cys	Gly	Leu	Pro	Phe	Val	Ile	Tyr	Tyr	
		195					200					205				
Phe	Leu	Leu	Phe	Asn	Ile	Lys	Asp	Gly	Phe	Cys	Leu	Phe	Asp	Phe	Arg	
	210					215					220					
Phe	Tyr	Met	Ser	Thr	His	Val	Leu	Thr	Ala	Ile	Asn	Asn	Cys	Ala	Asn	
225					230					235					240	
Pro	Ile	Ile	Tyr	Phe	Phe	Glu	Gly	Ser	Phe	Arg	His	Gln	Leu	Lys	His	
				245					250					255		
Gln	Thr	Leu	Lys	Met	Val	Leu	Gln	Ser	Val	Leu	Gln	Asp	Thr	Pro	Glu	
			260				265						270			
Ile	Ala	Glu	Asn	Met	Val	Glu	Met	Ser	Arg	Asn	Ile	Pro	Lys	Pro		
		275					280					285				

<210> 22  
 <211> 1024  
 <212> DNA  
 <213> Mus musculus

<220>  
 <221> CDS  
 <222> (16)...(918)

<400> 22  
 ccagtgcacg aaacc atg cat aga agt atc agc atc agg att ctg ata aca 51  
                   Met His Arg Ser Ile Ser Ile Arg Ile Leu Ile Thr  
                   1                  5                  10

aac ttg atg atc gtc atc ctc gga cta gtc ggg ctg aca gga aac gcc 99  
 Asn Leu Met Ile Val Ile Leu Gly Leu Val Gly Leu Thr Gly Asn Ala  
                   15                  20                  25

att gtg ttc tgg ctc ctg ctc ttc cgc ttg cgc agg aac gcc ttc tca 147  
 Ile Val Phe Trp Leu Leu Leu Phe Arg Leu Arg Arg Asn Ala Phe Ser  
                   30                  35                  40

atc tac atc cta aac ttg gcc ctg gct gac ttc ctc ttc ctc ctc tgc 195  
 Ile Tyr Ile Leu Asn Leu Ala Leu Ala Asp Phe Leu Phe Leu Leu Cys  
                   45                  50                  55                  60

cac atc ata gct tcc aca gag cat att ctc acg ttt tcc tcc ccc aac 243  
 His Ile Ile Ala Ser Thr Glu His Ile Leu Thr Phe Ser Ser Pro Asn  
                   65                  70                  75

agt atc ttt atc aat tgc ctt tac acc ttc agg gtg ctt ctc tac atc 291  
 Ser Ile Phe Ile Asn Cys Leu Tyr Thr Phe Arg Val Leu Leu Tyr Ile  
                   80                  85                  90

gca ggc ctg agc atg ctc agt gcc atc agc att gag cgc tgc ctg tct 339  
 Ala Gly Leu Ser Met Leu Ser Ala Ile Ser Ile Glu Arg Cys Leu Ser  
                   95                  100                  105

gtc atg tgc ccc atc tgg tat cgc tgc cac agc cca gaa cac aca tca 387

Val	Met	Cys	Pro	Ile	Trp	Tyr	Arg	Cys	His	Ser	Pro	Glu	His	Thr	Ser		
110						115					120						
act	gtc	atg	tgt	gct	atg	atc	tgg	gtc	ctg	tct	cta	ttg	ctc	tgc	att	435	
Thr	Val	Met	Cys	Ala	Met	Ile	Trp	Val	Leu	Ser	Leu	Leu	Leu	Cys	Ile		
125					130				135						140		
ctg	tat	agg	tat	ttc	tgc	ggc	ttc	ttg	gat	acc	aaa	tat	gaa	gat	gac	483	
Leu	Tyr	Arg	Tyr	Phe	Cys	Gly	Phe	Leu	Asp	Thr	Lys	Tyr	Glu	Asp	Asp		
				145					150					155			
tat	ggg	tgt	cta	gca	atg	aac	ttc	ctt	act	acc	gca	tac	ctg	atg	ttt	531	
Tyr	Gly	Cys	Leu	Ala	Met	Asn	Phe	Leu	Thr	Thr	Ala	Tyr	Leu	Met	Phe		
			160					165					170				
ttg	ttt	gta	gtc	ctc	tgt	gtg	tcc	agc	ctg	gct	ctg	ctg	gcc	agg	ttg	579	
Leu	Phe	Val	Val	Leu	Cys	Val	Ser	Ser	Leu	Ala	Leu	Leu	Ala	Arg	Leu		
		175					180					185					
ttc	tgt	ggc	gct	gga	cgg	atg	aag	ctt	acc	aga	tta	tac	gtg	acc	atc	627	
Phe	Cys	Gly	Ala	Gly	Arg	Met	Lys	Leu	Thr	Arg	Leu	Tyr	Val	Thr	Ile		
	190					195					200						
acg	ctg	acc	ctt	ttg	gtt	ttt	ctc	ctc	tgc	ggg	ttg	ccc	tgt	ggc	ttc	675	
Thr	Leu	Thr	Leu	Leu	Val	Phe	Leu	Leu	Cys	Gly	Leu	Pro	Cys	Gly	Phe		
205					210				215					220			
tac	tgg	ttc	ctg	tta	tcc	aaa	att	aag	aat	gtt	ttt	act	gta	ttt	gaa	723	
Tyr	Trp	Phe	Leu	Leu	Ser	Lys	Ile	Lys	Asn	Val	Phe	Thr	Val	Phe	Glu		
				225				230					235				
ttt	agt	ctt	tat	ctg	gca	tca	gtt	gtc	ctg	act	gct	att	aac	agc	tgt	771	
Phe	Ser	Leu	Tyr	Leu	Ala	Ser	Val	Val	Leu	Thr	Ala	Ile	Asn	Ser	Cys		
			240					245				250					
gcc	aac	ccc	atc	att	tac	ttc	ttt	gtg	ggc	tca	ttc	agg	cat	cgg	ttg	819	
Ala	Asn	Pro	Ile	Ile	Tyr	Phe	Phe	Val	Gly	Ser	Phe	Arg	His	Arg	Leu		
		255					260					265					
aag	cac	cag	acc	ctc	aaa	atg	gtt	ctc	cag	agt	gca	ctg	cag	gac	act	867	
Lys	His	Gln	Thr	Leu	Lys	Met	Val	Leu	Gln	Ser	Ala	Leu	Gln	Asp	Thr		
	270					275					280						
cct	gag	aca	cct	gaa	aac	atg	gtg	gag	atg	tca	aga	aac	aaa	gca	gag	915	
Pro	Glu	Thr	Pro	Glu	Asn	Met	Val	Glu	Met	Ser	Arg	Asn	Lys	Ala	Glu		
285					290					295				300			
ctg	tgatgaagag	cctctgccccg	gacctcagag	gtggcttttg	agtgagcact											968	
Leu																	
gccctgctgc	acttggccac	tgtccactct	cctctcagct	tactcacttg	gcatgc											1024	

<210> 23  
 <211> 301  
 <212> PRT  
 <213> Mus musculus

<400> 23

Met	His	Arg	Ser	Ile	Ser	Ile	Arg	Ile	Leu	Ile	Thr	Asn	Leu	Met	Ile
1				5					10					15	
Val	Ile	Leu	Gly	Leu	Val	Gly	Leu	Thr	Gly	Asn	Ala	Ile	Val	Phe	Trp
			20					25					30		
Leu	Leu	Leu	Phe	Arg	Leu	Arg	Arg	Asn	Ala	Phe	Ser	Ile	Tyr	Ile	Leu
		35					40					45			
Asn	Leu	Ala	Leu	Ala	Asp	Phe	Leu	Phe	Leu	Leu	Cys	His	Ile	Ile	Ala
	50					55					60				
Ser	Thr	Glu	His	Ile	Leu	Thr	Phe	Ser	Ser	Pro	Asn	Ser	Ile	Phe	Ile
					70					75					80
Asn	Cys	Leu	Tyr	Thr	Phe	Arg	Val	Leu	Leu	Tyr	Ile	Ala	Gly	Leu	Ser
				85					90					95	
Met	Leu	Ser	Ala	Ile	Ser	Ile	Glu	Arg	Cys	Leu	Ser	Val	Met	Cys	Pro
			100					105					110		
Ile	Trp	Tyr	Arg	Cys	His	Ser	Pro	Glu	His	Thr	Ser	Thr	Val	Met	Cys
		115					120					125			
Ala	Met	Ile	Trp	Val	Leu	Ser	Leu	Leu	Leu	Cys	Ile	Leu	Tyr	Arg	Tyr
	130						135					140			
Phe	Cys	Gly	Phe	Leu	Asp	Thr	Lys	Tyr	Glu	Asp	Asp	Tyr	Gly	Cys	Leu
145					150					155					160
Ala	Met	Asn	Phe	Leu	Thr	Thr	Ala	Tyr	Leu	Met	Phe	Leu	Phe	Val	Val
			165						170					175	
Leu	Cys	Val	Ser	Ser	Leu	Ala	Leu	Leu	Ala	Arg	Leu	Phe	Cys	Gly	Ala
			180						185				190		
Gly	Arg	Met	Lys	Leu	Thr	Arg	Leu	Tyr	Val	Thr	Ile	Thr	Leu	Thr	Leu
		195					200					205			
Leu	Val	Phe	Leu	Leu	Cys	Gly	Leu	Pro	Cys	Gly	Phe	Tyr	Trp	Phe	Leu
	210					215					220				
Leu	Ser	Lys	Ile	Lys	Asn	Val	Phe	Thr	Val	Phe	Glu	Phe	Ser	Leu	Tyr
					230					235					240
Leu	Ala	Ser	Val	Val	Leu	Thr	Ala	Ile	Asn	Ser	Cys	Ala	Asn	Pro	Ile
			245						250					255	
Ile	Tyr	Phe	Phe	Val	Gly	Ser	Phe	Arg	His	Arg	Leu	Lys	His	Gln	Thr
			260					265					270		
Leu	Lys	Met	Val	Leu	Gln	Ser	Ala	Leu	Gln	Asp	Thr	Pro	Glu	Thr	Pro
		275					280					285			
Glu	Asn	Met	Val	Glu	Met	Ser	Arg	Asn	Lys	Ala	Glu	Leu			
	290					295					300				

<210> 24

<211> 1045

<212> DNA

<213> Mus musculus

<220>

<221> CDS

<222> (106)...(1020)

<400> 24

tttgtgttca tagtgaatga ctaatttctt ctttgtgttc ccagtgcaga gtttctggcc 60  
ctaaacacct cagcctcagc aatgtcaccc acgacaacaa gtcca atg gac gaa acc 117  
Met Asp Glu Thr

agc cct aga agt att gac atc gag tca ctg atc cca aac ttg atg atc	165
Ser Pro Arg Ser Ile Asp Ile Glu Ser Leu Ile Pro Asn Leu Met Ile	
5 10 15 20	
atc atc ttt gga ctg gtt ggg ctg aca gga aat gcc att gtg ctc tgg	213
Ile Ile Phe Gly Leu Val Gly Leu Thr Gly Asn Ala Ile Val Leu Trp	
25 30 35	
ctc ctg ggc ttc tgc ttg cac agg aat gcc ttc tta gtc tac atc cta	261
Leu Leu Gly Phe Cys Leu His Arg Asn Ala Phe Leu Val Tyr Ile Leu	
40 45 50	
aac ttg gcc ctg gct gac ttc ctc ttc ctt ctc tgt cac ttc ata aat	309
Asn Leu Ala Leu Ala Asp Phe Leu Phe Leu Leu Cys His Phe Ile Asn	
55 60 65	
tca gca atg ttt ctt ctc aag gtt cct ata ccc aac ggt atc ttt gtc	357
Ser Ala Met Phe Leu Leu Lys Val Pro Ile Pro Asn Gly Ile Phe Val	
70 75 80	
tat tgc ttt tac acc atc aaa atg gtt ctc tac atc aca ggc ctg agc	405
Tyr Cys Phe Tyr Thr Ile Lys Met Val Leu Tyr Ile Thr Gly Leu Ser	
85 90 95 100	
atg ctc agt gcc atc agc act gag cgc tgc ctt tct gtc ctg tgc ccc	453
Met Leu Ser Ala Ile Ser Thr Glu Arg Cys Leu Ser Val Leu Cys Pro	
105 110 115	
atc tgg tat cac tgc cgc cgc cca gaa cac aca tca act gtc atg tgt	501
Ile Trp Tyr His Cys Arg Arg Pro Glu His Thr Ser Thr Val Met Cys	
120 125 130	
gct gtg att tgg atc ttt tcc gtg ttg atc tgc att ctg aaa gaa tat	549
Ala Val Ile Trp Ile Phe Ser Val Leu Ile Cys Ile Leu Lys Glu Tyr	
135 140 145	
ttc tgt gat ttc ttt ggt acc aaa ttg gga aat tac tat gtg tgt cag	597
Phe Cys Asp Phe Phe Gly Thr Lys Leu Gly Asn Tyr Tyr Val Cys Gln	
150 155 160	
gca tcc aac ttc ttt atg gga gca tac cta atg ttt ttg ttt gta gtc	645
Ala Ser Asn Phe Phe Met Gly Ala Tyr Leu Met Phe Leu Phe Val Val	
165 170 175 180	
ctc tgt ctg tcc acc ctg gct ctg ctg gcc agg ttg ttc tgt ggt gct	693
Leu Cys Leu Ser Thr Leu Ala Leu Leu Ala Arg Leu Phe Cys Gly Ala	
185 190 195	
gag aag atg aaa ttt acc aga tta ttc gtg acc atc atg ctg acc att	741
Glu Lys Met Lys Phe Thr Arg Leu Phe Val Thr Ile Met Leu Thr Ile	
200 205 210	
ttg gtt ttt ctc ctc tgt ggg ttg cca tgg ggc ttc ttc tgg ttc ctg	789
Leu Val Phe Leu Leu Cys Gly Leu Pro Trp Gly Phe Phe Trp Phe Leu	
215 220 225	
tta atc tgg att aag ggt ggt ttt agt gta cta gat tat aga ctt tat	837

Leu Ile Trp Ile Lys Gly Gly Phe Ser Val Leu Asp Tyr Arg Leu Tyr  
 230 235 240

ttg gca tca att gtc cta act gtt gtt aac agc tgt gcc aac ccc atc 885  
 Leu Ala Ser Ile Val Leu Thr Val Val Asn Ser Cys Ala Asn Pro Ile  
 245 250 255 260

att tac ttc ttc gtg gga tca ttc agg cat cgg ttg aag cac cag acc 933  
 Ile Tyr Phe Phe Val Gly Ser Phe Arg His Arg Leu Lys His Gln Thr  
 265 270 275

ctc aaa atg gtt ctc cag agt gca ctg cag gac act cct gag aca cat 981  
 Leu Lys Met Val Leu Gln Ser Ala Leu Gln Asp Thr Pro Glu Thr His  
 280 285 290

gaa aac atg gtg gag atg tca aga atc aaa gca gag cag tgatgaagag 1030  
 Glu Asn Met Val Glu Met Ser Arg Ile Lys Ala Glu Gln  
 295 300 305

cctctgacctg gacct 1045

<210> 25  
 <211> 305  
 <212> PRT  
 <213> Mus musculus

<400> 25  
 Met Asp Glu Thr Ser Pro Arg Ser Ile Asp Ile Glu Ser Leu Ile Pro  
 1 5 10 15  
 Asn Leu Met Ile Ile Phe Gly Leu Val Gly Leu Thr Gly Asn Ala  
 20 25 30  
 Ile Val Leu Trp Leu Leu Gly Phe Cys Leu His Arg Asn Ala Phe Leu  
 35 40 45  
 Val Tyr Ile Leu Asn Leu Ala Leu Ala Asp Phe Leu Phe Leu Leu Cys  
 50 55 60  
 His Phe Ile Asn Ser Ala Met Phe Leu Leu Lys Val Pro Ile Pro Asn  
 65 70 75 80  
 Gly Ile Phe Val Tyr Cys Phe Tyr Thr Ile Lys Met Val Leu Tyr Ile  
 85 90 95  
 Thr Gly Leu Ser Met Leu Ser Ala Ile Ser Thr Glu Arg Cys Leu Ser  
 100 105 110  
 Val Leu Cys Pro Ile Trp Tyr His Cys Arg Arg Pro Glu His Thr Ser  
 115 120 125  
 Thr Val Met Cys Ala Val Ile Trp Ile Phe Ser Val Leu Ile Cys Ile  
 130 135 140  
 Leu Lys Glu Tyr Phe Cys Asp Phe Phe Gly Thr Lys Leu Gly Asn Tyr  
 145 150 155 160  
 Tyr Val Cys Gln Ala Ser Asn Phe Phe Met Gly Ala Tyr Leu Met Phe  
 165 170 175  
 Leu Phe Val Val Leu Cys Leu Ser Thr Leu Ala Leu Leu Ala Arg Leu  
 180 185 190  
 Phe Cys Gly Ala Glu Lys Met Lys Phe Thr Arg Leu Phe Val Thr Ile  
 195 200 205  
 Met Leu Thr Ile Leu Val Phe Leu Leu Cys Gly Leu Pro Trp Gly Phe  
 210 215 220  
 Phe Trp Phe Leu Leu Ile Trp Ile Lys Gly Gly Phe Ser Val Leu Asp  
 225 230 235 240

[illegible]

```
<220>
<221> CDS
<222> (45) ... (959)
```

<400> 26																
tagacacctc	agcatatgca	atggcaccca	cgaccacaaa	tcca	atg	gac	aaa	acc	56							
					Met	Asp	Lys	Thr								
					1											
atc	ctt	gga	agt	att	gac	atc	gag	acc	ctg	atc	cga	cat	ttg	atg	atc	104
Ile	Leu	Gly	Ser	Ile	Asp	Ile	Glu	Thr	Leu	Ile	Arg	His	Leu	Met	Ile	
5					10					15					20	
atc	atc	ttc	gga	ctg	gtc	ggg	ctg	aca	gga	aat	gcc	att	gtg	ttc	tgg	152
Ile	Ile	Phe	Gly	Leu	Val	Gly	Leu	Thr	Gly	Asn	Ala	Ile	Val	Phe	Trp	
				25					30					35		
ctc	ctg	ggc	ttc	cac	ttg	cac	agg	aat	gcc	ttc	tta	gtc	tac	atc	ata	200
Leu	Leu	Gly	Phe	His	Leu	His	Arg	Asn	Ala	Phe	Leu	Val	Tyr	Ile	Ile	
			40					45					50			
aac	ttg	gcc	ctg	gct	gac	ttc	ttc	tat	ctg	ctc	tgt	cac	atc	ata	aat	248
Asn	Leu	Ala	Leu	Ala	Asp	Phe	Phe	Tyr	Leu	Leu	Cys	His	Ile	Ile	Asn	
		55					60					65				
tcc	ata	atg	ttt	ctt	ctc	aag	gtt	ccc	tca	ccc	aac	att	atc	ttg	gac	296
Ser	Ile	Met	Phe	Leu	Leu	Lys	Val	Pro	Ser	Pro	Asn	Ile	Ile	Leu	Asp	
	70					75					80					
cat	tgc	ttt	tac	acc	atc	atg	ata	gtt	ctc	tac	atc	aca	ggc	ctg	agc	344
His	Cys	Phe	Tyr	Thr	Ile	Met	Ile	Val	Leu	Tyr	Ile	Thr	Gly	Leu	Ser	
85					90					95					100	
atg	ctc	agc	gcc	atc	agc	act	gag	cgc	tgc	ctg	tct	gtc	ctg	tgc	ccc	392
Met	Leu	Ser	Ala	Ile	Ser	Thr	Glu	Arg	Cys	Leu	Ser	Val	Leu	Cys	Pro	
				105					110					115		
atc	tgg	tat	cgc	tgc	cac	cgt	cca	gaa	cac	aca	tca	act	gtc	atg	tgt	440
Ile	Trp	Tyr	Arg	Cys	His	Arg	Pro	Glu	His	Thr	Ser	Thr	Val	Met	Cys	
			120					125					130			

gct	gtg	atc	tgg	gta	atg	tcc	ctg	ttg	atc	tct	att	ctc	aat	gga	tat	488
Ala	Val	Ile	Trp	Val	Met	Ser	Leu	Leu	Ile	Ser	Ile	Leu	Asn	Gly	Tyr	
	135						140					145				

ttc	tgt	aat	ttc	tct	agt	ccc	aaa	tat	gta	aat	aac	tct	gtg	tgt	cag	536
Phe	Cys	Asn	Phe	Ser	Ser	Pro	Lys	Tyr	Val	Asn	Asn	Ser	Val	Cys	Gln	
	150					155					160					

gca	tca	cac	atc	ttt	atc	aga	aca	tac	cca	ata	ttt	ttg	ttt	gta	ctc	584
Ala	Ser	His	Ile	Phe	Ile	Arg	Thr	Tyr	Pro	Ile	Phe	Leu	Phe	Val	Leu	
165					170					175					180	

ctc	tgt	ctg	tcc	acc	ctt	gct	ctg	ctg	gcc	agg	ttg	ttc	tct	ggt	gct	632
Leu	Cys	Leu	Ser	Thr	Leu	Ala	Leu	Leu	Ala	Arg	Leu	Phe	Ser	Gly	Ala	
			185						190					195		

ggg	aag	agg	aaa	ttt	acc	aga	tta	ttc	gtg	acc	atc	atg	ctg	gcc	att	680
Gly	Lys	Arg	Lys	Phe	Thr	Arg	Leu	Phe	Val	Thr	Ile	Met	Leu	Ala	Ile	
		200					205					210				

ttg	gtt	ttt	ctt	ctc	tgt	ggg	tta	ccc	ctg	ggc	ttc	ttc	tgg	ttt	ctg	728
Leu	Val	Phe	Leu	Leu	Cys	Gly	Leu	Pro	Leu	Gly	Phe	Phe	Trp	Phe	Leu	
		215					220					225				

tca	ccc	tgg	att	gag	gat	cgt	ttc	att	gta	cta	gat	tat	aga	ctt	ttt	776
Ser	Pro	Trp	Ile	Glu	Asp	Arg	Phe	Ile	Val	Leu	Asp	Tyr	Arg	Leu	Phe	
	230					235					240					

ttt	gca	tca	gtt	gtc	cta	act	gtt	gtt	aac	agc	tgt	gcc	aac	ccc	atc	824
Phe	Ala	Ser	Val	Val	Leu	Thr	Val	Val	Asn	Ser	Cys	Ala	Asn	Pro	Ile	
245					250					255					260	

att	tac	ttc	ttt	gtg	ggc	tcc	ttc	agg	cat	cgg	ttg	aag	caa	cag	acc	872
Ile	Tyr	Phe	Phe	Val	Gly	Ser	Phe	Arg	His	Arg	Leu	Lys	Gln	Gln	Thr	
				265				270						275		

ctc	aaa	atg	ttt	ctc	cag	aga	gca	ctg	cag	gac	acc	cct	gag	aca	cct	920
Leu	Lys	Met	Phe	Leu	Gln	Arg	Ala	Leu	Gln	Asp	Thr	Pro	Glu	Thr	Pro	
		280						285					290			

gaa	aac	atg	gtg	gag	atg	tca	aga	agc	aaa	gca	gag	ccg	tgatgaagag			969
Glu	Asn	Met	Val	Glu	Met	Ser	Arg	Ser	Lys	Ala	Glu	Pro				
		295				300					305					

cctcttccag	g															980
------------	---	--	--	--	--	--	--	--	--	--	--	--	--	--	--	-----

<210> 27  
 <211> 305  
 <212> PRT  
 <213> Mus musculus

<400> 27																
Met	Asp	Lys	Thr	Ile	Leu	Gly	Ser	Ile	Asp	Ile	Glu	Thr	Leu	Ile	Arg	
1				5				10					15			
His	Leu	Met	Ile	Ile	Ile	Phe	Gly	Leu	Val	Gly	Leu	Thr	Gly	Asn	Ala	
			20					25					30			

Ile Val Phe Trp Leu Leu Gly Phe His Leu His Arg Asn Ala Phe Leu  
 35 40 45  
 Val Tyr Ile Ile Asn Leu Ala Leu Ala Asp Phe Phe Tyr Leu Leu Cys  
 50 55 60  
 His Ile Ile Asn Ser Ile Met Phe Leu Leu Lys Val Pro Ser Pro Asn  
 65 70 75 80  
 Ile Ile Leu Asp His Cys Phe Tyr Thr Ile Met Ile Val Leu Tyr Ile  
 85 90 95  
 Thr Gly Leu Ser Met Leu Ser Ala Ile Ser Thr Glu Arg Cys Leu Ser  
 100 105 110  
 Val Leu Cys Pro Ile Trp Tyr Arg Cys His Arg Pro Glu His Thr Ser  
 115 120 125  
 Thr Val Met Cys Ala Val Ile Trp Val Met Ser Leu Leu Ile Ser Ile  
 130 135 140  
 Leu Asn Gly Tyr Phe Cys Asn Phe Ser Ser Pro Lys Tyr Val Asn Asn  
 145 150 155 160  
 Ser Val Cys Gln Ala Ser His Ile Phe Ile Arg Thr Tyr Pro Ile Phe  
 165 170 175  
 Leu Phe Val Leu Leu Cys Leu Ser Thr Leu Ala Leu Leu Ala Arg Leu  
 180 185 190  
 Phe Ser Gly Ala Gly Lys Arg Lys Phe Thr Arg Leu Phe Val Thr Ile  
 195 200 205  
 Met Leu Ala Ile Leu Val Phe Leu Leu Cys Gly Leu Pro Leu Gly Phe  
 210 215 220  
 Phe Trp Phe Leu Ser Pro Trp Ile Glu Asp Arg Phe Ile Val Leu Asp  
 225 230 235 240  
 Tyr Arg Leu Phe Phe Ala Ser Val Val Leu Thr Val Val Asn Ser Cys  
 245 250 255  
 Ala Asn Pro Ile Ile Tyr Phe Phe Val Gly Ser Phe Arg His Arg Leu  
 260 265 270  
 Lys Gln Gln Thr Leu Lys Met Phe Leu Gln Arg Ala Leu Gln Asp Thr  
 275 280 285  
 Pro Glu Thr Pro Glu Asn Met Val Glu Met Ser Arg Ser Lys Ala Glu  
 290 295 300  
 Pro  
 305

<210> 28  
 <211> 408  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> CDS  
 <222> (1)...(405)

<400> 28  
 atg gag act ctc ccc aag gtt cta gag gtc gat gag aag tct cca gaa 48  
 Met Glu Thr Leu Pro Lys Val Leu Glu Val Asp Glu Lys Ser Pro Glu  
 1 5 10 15  
 gcc aag gac ctg ctg ccc agc cag acc gcc agc tcc ctg tgc atc agc 96  
 Ala Lys Asp Leu Leu Pro Ser Gln Thr Ala Ser Ser Leu Cys Ile Ser  
 20 25 30  
 tcc agg agc gag tct gtc tgg acc acc acc ccc agg agt aac tgg gaa 144



Ser Arg Ser Glu Ser Val Trp Thr Thr Thr Pro Arg Ser Asn Trp Glu  
 35 40 45

atc tac cgc aag ccc atc gtt atc atg tca gtg ggc ggt gcc atc ctg 192  
 Ile Tyr Arg Lys Pro Ile Val Ile Met Ser Val Gly Gly Ala Ile Leu  
 50 55 60

ctt ttc ggc gtg gtc atc acc tgc ttg gcc tac acc ttg aag ctg agt 240  
 Leu Phe Gly Val Val Ile Thr Cys Leu Ala Tyr Thr Leu Lys Leu Ser  
 65 70 75 80

gac aag agt ctc tcc atc ctc aaa atg gta ggg cct ggc ttc ctg tcc 288  
 Asp Lys Ser Leu Ser Ile Leu Lys Met Val Gly Pro Gly Phe Leu Ser  
 85 90 95

ctg gga ctc atg atg ctg gtg tgc ggg ctg gtg tgg gtg ccc atc atc 336  
 Leu Gly Leu Met Met Leu Val Cys Gly Leu Val Trp Val Pro Ile Ile  
 100 105 110

aaa aag aaa cag aag cac aga cag aag tcg aat ttc tta cgc agc ctc 384  
 Lys Lys Lys Gln Lys His Arg Gln Lys Ser Asn Phe Leu Arg Ser Leu  
 115 120 125

aag tcc ttc ttc ctg act cgc tga 408  
 Lys Ser Phe Phe Leu Thr Arg  
 130 135

<210> 29  
 <211> 135  
 <212> PRT  
 <213> Homo sapiens

<400> 29  
 Met Glu Thr Leu Pro Lys Val Leu Glu Val Asp Glu Lys Ser Pro Glu  
 1 5 10 15  
 Ala Lys Asp Leu Leu Pro Ser Gln Thr Ala Ser Ser Leu Cys Ile Ser  
 20 25 30  
 Ser Arg Ser Glu Ser Val Trp Thr Thr Thr Pro Arg Ser Asn Trp Glu  
 35 40 45  
 Ile Tyr Arg Lys Pro Ile Val Ile Met Ser Val Gly Gly Ala Ile Leu  
 50 55 60  
 Leu Phe Gly Val Val Ile Thr Cys Leu Ala Tyr Thr Leu Lys Leu Ser  
 65 70 75 80  
 Asp Lys Ser Leu Ser Ile Leu Lys Met Val Gly Pro Gly Phe Leu Ser  
 85 90 95  
 Leu Gly Leu Met Met Leu Val Cys Gly Leu Val Trp Val Pro Ile Ile  
 100 105 110  
 Lys Lys Lys Gln Lys His Arg Gln Lys Ser Asn Phe Leu Arg Ser Leu  
 115 120 125  
 Lys Ser Phe Phe Leu Thr Arg  
 130 135

<210> 30  
 <211> 1400  
 <212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (332)...(1297)

<400> 30

```
tcaggcccag gatagagtaa tcatcgggtc cacagcactg gctagatgag tgggggtggt 60
ttgatcctaa tggtattccc atgtagcac agaacttggt tggcagtaga gagaggtcag 120
ggttcagagt cagcaagaac tggatttcaa actggatttg aggaccccca ccttttgata 180
ggtgacttat tctctgtgag tctctgatct gccctcttta aatgaggaag taaatcccac 240
atggcagggt ggtggggaga atcagagatc atacagctgg tgatcacaac tggtttctgt 300
ttccagggtc accagactgg ggtttctgag c atg gat tca acc atc cca gtc 352
```

Met Asp Ser Thr Ile Pro Val

1

5

```
ttg ggt aca gaa ctg aca cca atc aac gga cgt gag gag act cct tgc 400
Leu Gly Thr Glu Leu Thr Pro Ile Asn Gly Arg Glu Glu Thr Pro Cys
```

10

15

20

```
tac aag cag acc ctg agc ttc acg ggg ctg acg tgc atc gtt tcc ctt 448
Tyr Lys Gln Thr Leu Ser Phe Thr Gly Leu Thr Cys Ile Val Ser Leu
```

25

30

35

```
gtc gcg ctg aca gga aac gcg gtt gtg ctc tgg ctc ctg ggc tgc cgc 496
Val Ala Leu Thr Gly Asn Ala Val Val Leu Trp Leu Leu Gly Cys Arg
```

40

45

50

55

```
atg cgc agg aac gct gtc tcc atc tac atc ctc aac ctg gtc gcg gcc 544
Met Arg Arg Asn Ala Val Ser Ile Tyr Ile Leu Asn Leu Val Ala Ala
```

60

65

70

```
gac ttc ctc ttc ctt agc ggc cac att ata tgt tgc ccg tta cgc ctc 592
Asp Phe Leu Phe Leu Ser Gly His Ile Ile Cys Ser Pro Leu Arg Leu
```

75

80

85

```
atc aat atc cgc cat ccc atc tcc aaa atc ctc agt cct gtg atg acc 640
Ile Asn Ile Arg His Pro Ile Ser Lys Ile Leu Ser Pro Val Met Thr
```

90

95

100

```
ttt ccc tac ttt ata ggc cta agc atg ctg agc gcc atc agc acc gag 688
Phe Pro Tyr Phe Ile Gly Leu Ser Met Leu Ser Ala Ile Ser Thr Glu
```

105

110

115

```
cgc tgc ctg tcc atc ctg tgg ccc atc tgg tac cac tgc cgc cgc ccc 736
Arg Cys Leu Ser Ile Leu Trp Pro Ile Trp Tyr His Cys Arg Arg Pro
```

120

125

130

135

```
aga tac ctg tca tgc gtc atg tgt gtc ctg ctc tgg gcc ctg tcc ctg 784
Arg Tyr Leu Ser Ser Val Met Cys Val Leu Leu Trp Ala Leu Ser Leu
```

140

145

150

```
ctg cgg agt atc ctg gag tgg atg ttc tgt gac ttc ctg ttt agt ggt 832
Leu Arg Ser Ile Leu Glu Trp Met Phe Cys Asp Phe Leu Phe Ser Gly
```

155

160

165

```
gct gat tct gtt tgg tgt gaa acg tca gat ttc att aca atc gcg tgg 880
```

Ala Asp Ser Val Trp Cys Glu Thr Ser Asp Phe Ile Thr Ile Ala Trp  
 170 175 180

ctg gtt ttt tta tgt gtg gtt ctc tgt ggg tcc agc ctg gtc ctg ctg 928  
 Leu Val Phe Leu Cys Val Val Leu Cys Gly Ser Ser Leu Val Leu Leu  
 185 190 195

gtc agg att ctc tgt gga tcc cgg aag atg ccg ctg acc agg ctg tac 976  
 Val Arg Ile Leu Cys Gly Ser Arg Lys Met Pro Leu Thr Arg Leu Tyr  
 200 205 210 215

gtg acc atc ctc ctc aca gtg ctg gtc ttc ctc ctc tgt ggc ctg ccc 1024  
 Val Thr Ile Leu Leu Thr Val Leu Val Phe Leu Leu Cys Gly Leu Pro  
 220 225 230

ttt ggc att cag tgg gcc ctg ttt tcc agg atc cac ctg gat tgg aaa 1072  
 Phe Gly Ile Gln Trp Ala Leu Phe Ser Arg Ile His Leu Asp Trp Lys  
 235 240 245

gtc tta ttt tgt cat gtg cat cta gtt tcc att ttc ctg tcc gct ctt 1120  
 Val Leu Phe Cys His Val His Leu Val Ser Ile Phe Leu Ser Ala Leu  
 250 255 260

aac agc agt gcc aac ccc atc att tac ttc ttc gtg ggc tcc ttt agg 1168  
 Asn Ser Ser Ala Asn Pro Ile Ile Tyr Phe Phe Val Gly Ser Phe Arg  
 265 270 275

cag cgt caa aat agg cag aac ctg aag ctg gtt ctc cag agg gct ctg 1216  
 Gln Arg Gln Asn Arg Gln Asn Leu Lys Leu Val Leu Gln Arg Ala Leu  
 280 285 290 295

cag gac acg cct gag gtg gat gaa ggt gga ggg tgg ctt cct cag gaa 1264  
 Gln Asp Thr Pro Glu Val Asp Glu Gly Gly Gly Trp Leu Pro Gln Glu  
 300 305 310

acc ctg gag ctg tcg gga agc aga ttg gag cag tgaggaagaa cctctgccct 1317  
 Thr Leu Glu Leu Ser Gly Ser Arg Leu Glu Gln  
 315 320

gtcagacagg actttgagag caatgctgcc ctgccaccct tgacaattat atgcattttt 1377  
 cttagccttc tgcctcagaa atg 1400

<210> 31  
 <211> 322  
 <212> PRT  
 <213> Homo sapiens

<400> 31  
 Met Asp Ser Thr Ile Pro Val Leu Gly Thr Glu Leu Thr Pro Ile Asn  
 1 5 10 15  
 Gly Arg Glu Glu Thr Pro Cys Tyr Lys Gln Thr Leu Ser Phe Thr Gly  
 20 25 30  
 Leu Thr Cys Ile Val Ser Leu Val Ala Leu Thr Gly Asn Ala Val Val  
 35 40 45  
 Leu Trp Leu Leu Gly Cys Arg Met Arg Arg Asn Ala Val Ser Ile Tyr  
 50 55 60  
 Ile Leu Asn Leu Val Ala Ala Asp Phe Leu Phe Leu Ser Gly His Ile

65					70					75				80	
Ile	Cys	Ser	Pro	Leu	Arg	Leu	Ile	Asn	Ile	Arg	His	Pro	Ile	Ser	Lys
				85					90				95		
Ile	Leu	Ser	Pro	Val	Met	Thr	Phe	Pro	Tyr	Phe	Ile	Gly	Leu	Ser	Met
			100					105					110		
Leu	Ser	Ala	Ile	Ser	Thr	Glu	Arg	Cys	Leu	Ser	Ile	Leu	Trp	Pro	Ile
		115					120					125			
Trp	Tyr	His	Cys	Arg	Arg	Pro	Arg	Tyr	Leu	Ser	Ser	Val	Met	Cys	Val
	130					135					140				
Leu	Leu	Trp	Ala	Leu	Ser	Leu	Leu	Arg	Ser	Ile	Leu	Glu	Trp	Met	Phe
145					150					155					160
Cys	Asp	Phe	Leu	Phe	Ser	Gly	Ala	Asp	Ser	Val	Trp	Cys	Glu	Thr	Ser
			165					170						175	
Asp	Phe	Ile	Thr	Ile	Ala	Trp	Leu	Val	Phe	Leu	Cys	Val	Val	Leu	Cys
			180					185						190	
Gly	Ser	Ser	Leu	Val	Leu	Leu	Val	Arg	Ile	Leu	Cys	Gly	Ser	Arg	Lys
		195					200					205			
Met	Pro	Leu	Thr	Arg	Leu	Tyr	Val	Thr	Ile	Leu	Leu	Thr	Val	Leu	Val
	210					215					220				
Phe	Leu	Leu	Cys	Gly	Leu	Pro	Phe	Gly	Ile	Gln	Trp	Ala	Leu	Phe	Ser
225					230					235					240
Arg	Ile	His	Leu	Asp	Trp	Lys	Val	Leu	Phe	Cys	His	Val	His	Leu	Val
			245						250					255	
Ser	Ile	Phe	Leu	Ser	Ala	Leu	Asn	Ser	Ser	Ala	Asn	Pro	Ile	Ile	Tyr
		260						265					270		
Phe	Phe	Val	Gly	Ser	Phe	Arg	Gln	Arg	Gln	Asn	Arg	Gln	Asn	Leu	Lys
		275					280					285			
Leu	Val	Leu	Gln	Arg	Ala	Leu	Gln	Asp	Thr	Pro	Glu	Val	Asp	Glu	Gly
	290					295					300				
Gly	Gly	Trp	Leu	Pro	Gln	Glu	Thr	Leu	Glu	Leu	Ser	Gly	Ser	Arg	Leu
305					310				315						320
Glu	Gln														

<210> 32  
 <211> 1604  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> CDS  
 <222> (433)...(1398)

<400> 32  
 tgcattgtct tccttcctgt ccatggatga ccagtcctag tcacgagtgt gtcacaacca 60  
 cctctttgtg tatctgaatt cctccacctg aaagaaaatt tcagaccag gatagattaa 120  
 tcatcgggtc caaagccctg gccggatgag tgggggtgtt ttgatcctaa tggtattccc 180  
 atgtcagcac agaactgtg tggcagtaga gagatgtcag gcttcagagt caacaagaac 240  
 tggatttcaa actggatttg aggaccccca cctttggtaa gtgacttatt atctgcgagc 300  
 ctctgtttct ctcttcttta aatgaggaca gtaaatccca tacggcaggg tgggtggggag 360  
 aatcagagat gatacagctg gtgatcacat ctggtttgtg ttcccagggg caccagacta 420  
 gagtttctga gc atg gat cca acc gtc cca gtc ttc ggt aca aaa ctg aca 471  
 Met Asp Pro Thr Val Pro Val Phe Gly Thr Lys Leu Thr  
 1 5 10

cca atc aac gga cgt gag gag act cct tgc tac aat cag acc ctg agc 519

Pro	Ile	Asn	Gly	Arg	Glu	Glu	Thr	Pro	Cys	Tyr	Asn	Gln	Thr	Leu	Ser		
15						20					25						
ttc	acg	gtg	ctg	acg	tgc	atc	att	tcc	ctt	gtc	gga	ctg	aca	gga	aac	567	
Phe	Thr	Val	Leu	Thr	Cys	Ile	Ile	Ser	Leu	Val	Gly	Leu	Thr	Gly	Asn		
30					35					40					45		
gcg	gta	gtg	ctc	tgg	ctc	ctg	ggc	tac	cgc	atg	cgc	agg	aac	gct	gtc	615	
Ala	Val	Val	Leu	Trp	Leu	Leu	Gly	Tyr	Arg	Met	Arg	Arg	Asn	Ala	Val		
				50					55					60			
tcc	atc	tac	atc	ctc	aac	ctg	gcc	gca	gca	gac	ttc	ctc	ttc	ctc	agc	663	
Ser	Ile	Tyr	Ile	Leu	Asn	Leu	Ala	Ala	Ala	Asp	Phe	Leu	Phe	Leu	Ser		
			65				70						75				
ttc	cag	att	ata	cgt	tcg	cca	tta	cgc	ctc	atc	aat	atc	agc	cat	ctc	711	
Phe	Gln	Ile	Ile	Arg	Ser	Pro	Leu	Arg	Leu	Ile	Asn	Ile	Ser	His	Leu		
		80					85						90				
atc	cgc	aaa	atc	ctc	gtt	tct	gtg	atg	acc	ttt	ccc	tac	ttt	aca	ggc	759	
Ile	Arg	Lys	Ile	Leu	Val	Ser	Val	Met	Thr	Phe	Pro	Tyr	Phe	Thr	Gly		
		95				100					105						
ctg	agt	atg	ctg	agc	gcc	atc	agc	acc	gag	cgc	tgc	ctg	tct	gtt	ctg	807	
Leu	Ser	Met	Leu	Ser	Ala	Ile	Ser	Thr	Glu	Arg	Cys	Leu	Ser	Val	Leu		
110					115					120					125		
tgg	ccc	atc	tgg	tac	cgc	tgc	cgc	cgc	ccc	aca	cac	ctg	tca	gcg	gtc	855	
Trp	Pro	Ile	Trp	Tyr	Arg	Cys	Arg	Arg	Pro	Thr	His	Leu	Ser	Ala	Val		
				130					135					140			
gtg	tgt	gtc	ctg	ctc	tgg	ggc	ctg	tcc	ctg	ctg	ttt	agt	atg	ctg	gag	903	
Val	Cys	Val	Leu	Leu	Trp	Gly	Leu	Ser	Leu	Leu	Phe	Ser	Met	Leu	Glu		
			145				150						155				
tgg	agg	ttc	tgt	gac	ttc	ctg	ttt	agt	ggc	gct	gat	tct	agt	tgg	tgt	951	
Trp	Arg	Phe	Cys	Asp	Phe	Leu	Phe	Ser	Gly	Ala	Asp	Ser	Ser	Trp	Cys		
		160				165						170					
gaa	acg	tca	gat	ttc	atc	cca	gtc	gcg	tgg	ctg	att	ttt	tta	tgt	gtg	999	
Glu	Thr	Ser	Asp	Phe	Ile	Pro	Val	Ala	Trp	Leu	Ile	Phe	Leu	Cys	Val		
		175				180					185						
gtt	ctc	tgt	gtt	tcc	agc	ctg	gtc	ctg	ctg	gtc	agg	atc	ctc	tgt	gga	1047	
Val	Leu	Cys	Val	Ser	Ser	Leu	Val	Leu	Leu	Val	Arg	Ile	Leu	Cys	Gly		
190					195					200					205		
tcc	cgg	aag	atg	ccg	ctg	acc	agg	ctg	tac	gtg	acc	atc	ctg	ctc	aca	1095	
Ser	Arg	Lys	Met	Pro	Leu	Thr	Arg	Leu	Tyr	Val	Thr	Ile	Leu	Leu	Thr		
				210					215					220			
gtg	ctg	gtc	ttc	ctc	ctc	tgc	ggc	ctg	ccc	ttc	ggc	att	ctg	ggg	gcc	1143	
Val	Leu	Val	Phe	Leu	Leu	Cys	Gly	Leu	Pro	Phe	Gly	Ile	Leu	Gly	Ala		
			225				230						235				
cta	att	tac	agg	atg	cac	ctg	aat	ttg	gaa	gtc	tta	tat	tgt	cat	gtt	1191	
Leu	Ile	Tyr	Arg	Met	His	Leu	Asn	Leu	Glu	Val	Leu	Tyr	Cys	His	Val		

240	245	250	
tat ctg gtt tgc atg tcc ctg tcc tct cta aac agt agt gcc aac ccc			1239
Tyr Leu Val Cys Met Ser Leu Ser Ser Leu Asn Ser Ser Ala Asn Pro			
255	260	265	
atc att tac ttc ttc gtg ggc tcc ttt agg cag cgt caa aat agg cag			1287
Ile Ile Tyr Phe Phe Val Gly Ser Phe Arg Gln Arg Gln Asn Arg Gln			
270	275	280	285
aac ctg aag ctg gtt ctc cag agg gct ctg cag gac aag cct gag gtg			1335
Asn Leu Lys Leu Val Leu Gln Arg Ala Leu Gln Asp Lys Pro Glu Val			
290	295	300	
gat aaa ggt gaa ggg cag ctt cct gag gaa agc ctg gag ctg tcg gga			1383
Asp Lys Gly Glu Gly Gln Leu Pro Glu Glu Ser Leu Glu Leu Ser Gly			
305	310	315	
agc aga ttg ggg cca tgaggagag cctctgccct gtcagtcaga cgggactttg			1438
Ser Arg Leu Gly Pro			
320			

agagcaacac tgtcctgcca cccttgacaa ttacatgcgt ttttcttagc gtttcgcctc	1498
agaaatgtct cagtggtaac tcaaggtctt caaataaatg tttatctaac ctgacagttg	1558
cagttttcac ccatggaaag cattagtctg acagtacaat gtttgg	1604

<210> 33  
 <211> 322  
 <212> PRT  
 <213> Homo sapiens

<400> 33	
Met Asp Pro Thr Val Pro Val Phe Gly Thr Lys Leu Thr Pro Ile Asn	
1 5 10 15	
Gly Arg Glu Glu Thr Pro Cys Tyr Asn Gln Thr Leu Ser Phe Thr Val	
20 25 30	
Leu Thr Cys Ile Ile Ser Leu Val Gly Leu Thr Gly Asn Ala Val Val	
35 40 45	
Leu Trp Leu Leu Gly Tyr Arg Met Arg Arg Asn Ala Val Ser Ile Tyr	
50 55 60	
Ile Leu Asn Leu Ala Ala Ala Asp Phe Leu Phe Leu Ser Phe Gln Ile	
65 70 75 80	
Ile Arg Ser Pro Leu Arg Leu Ile Asn Ile Ser His Leu Ile Arg Lys	
85 90 95	
Ile Leu Val Ser Val Met Thr Phe Pro Tyr Phe Thr Gly Leu Ser Met	
100 105 110	
Leu Ser Ala Ile Ser Thr Glu Arg Cys Leu Ser Val Leu Trp Pro Ile	
115 120 125	
Trp Tyr Arg Cys Arg Arg Pro Thr His Leu Ser Ala Val Val Cys Val	
130 135 140	
Leu Leu Trp Gly Leu Ser Leu Leu Phe Ser Met Leu Glu Trp Arg Phe	
145 150 155 160	
Cys Asp Phe Leu Phe Ser Gly Ala Asp Ser Ser Trp Cys Glu Thr Ser	
165 170 175	
Asp Phe Ile Pro Val Ala Trp Leu Ile Phe Leu Cys Val Val Leu Cys	
180 185 190	
Val Ser Ser Leu Val Leu Leu Val Arg Ile Leu Cys Gly Ser Arg Lys	



<400> 35

Met	Asn	Gln	Thr	Leu	Asn	Ser	Ser	Gly	Thr	Val	Glu	Ser	Ala	Leu	Asn
1				5				10						15	
Tyr	Ser	Arg	Gly	Ser	Thr	Val	His	Thr	Ala	Tyr	Leu	Val	Leu	Ser	Ser
			20					25					30		
Leu	Ala	Met	Phe	Thr	Cys	Leu	Cys	Gly	Met	Ala	Gly	Asn	Ser	Met	Val
		35					40					45			
Ile	Trp	Leu	Leu	Gly	Phe	Arg	Met	His	Arg	Asn	Pro	Phe	Cys	Ile	Tyr
	50					55					60				
Ile	Leu	Asn	Leu	Ala	Ala	Ala	Asp	Leu	Leu	Phe	Leu	Phe	Ser	Met	Ala
65					70					75					80
Ser	Thr	Leu	Ser	Leu	Glu	Thr	Gln	Pro	Leu	Val	Asn	Thr	Thr	Asp	Lys
				85					90					95	
Val	His	Glu	Leu	Met	Lys	Arg	Leu	Met	Tyr	Phe	Ala	Tyr	Thr	Val	Gly
			100					105						110	
Leu	Ser	Leu	Leu	Thr	Ala	Ile	Ser	Thr	Gln	Arg	Cys	Leu	Ser	Val	Leu
		115					120					125			
Phe	Pro	Ile	Trp	Phe	Lys	Cys	His	Arg	Pro	Arg	His	Leu	Ser	Ala	Trp
	130					135					140				
Val	Cys	Gly	Leu	Leu	Trp	Thr	Leu	Cys	Leu	Leu	Met	Asn	Gly	Leu	Thr
145					150					155					160
Ser	Ser	Phe	Cys	Ser	Lys	Phe	Leu	Lys	Phe	Asn	Glu	Asp	Arg	Cys	Phe
			165					170						175	
Arg	Val	Asp	Met	Val	Gln	Ala	Ala	Leu	Ile	Met	Gly	Val	Leu	Thr	Pro
		180						185						190	
Val	Met	Thr	Leu	Ser	Ser	Leu	Thr	Leu	Phe	Val	Trp	Val	Arg	Arg	Ser
	195						200					205			
Ser	Gln	Gln	Trp	Arg	Arg	Gln	Pro	Thr	Arg	Leu	Phe	Val	Val	Val	Leu
	210					215					220				
Ala	Ser	Val	Leu	Val	Phe	Leu	Ile	Cys	Ser	Leu	Pro	Leu	Ser	Ile	Tyr
	225				230					235					240
Trp	Phe	Val	Leu	Tyr	Trp	Leu	Ser	Leu	Pro	Pro	Glu	Met	Gln	Val	Leu
		245						250					255		
Cys	Phe	Ser	Leu	Ser	Arg	Leu	Ser	Ser	Ser	Val	Ser	Ser	Ser	Ala	Asn
		260					265						270		
Pro	Val	Ile	Tyr	Phe	Leu	Val	Gly	Ser	Arg	Arg	Ala	Thr	Gly	Cys	Pro
	275						280					285			
Pro	Gly	Pro	Trp	Gly	Leu	Cys	Ser	Asn	Arg	Arg	Phe	Ala	Arg	Ser	Pro
	290				295						300				
Ser	Trp	Lys	Val	Gly	Arg	Arg	Pro	Pro	Trp	Ala	Pro	Met	Arg	Trp	Gly
305				310					315						320
Leu	Glu	Ser	Arg	Pro	Gln	Val	Leu	Pro	Thr	Cys	Ala	Ser	Pro	Cys	Pro
			325						330					335	
Gly	Asp	Ser	Arg	Ala	Val	Ser	Cys	Leu	Pro	Pro	Arg	Pro	Cys	Gln	Val
		340						345					350		
Ser	Gly	Pro	Pro	Ser	Trp	Gly	Ser	Pro	Lys	Asp	Phe	Ala	Ala	Ala	Cys
	355					360					365				
Gly	Gly	His	Phe	Pro	Ala	Cys	Gln	Asn	Ser	Pro	Gln	His	Leu	Cys	Pro
	370					375					380				
Gly	Ser	His	Asn	Ala	Thr	Pro	Leu	Glu	Asp	Ala	Ile	Tyr	Leu	Phe	Ile
385					390					395					400
Ala	Asp	Tyr	Leu	Val	Gly	Gly	Lys	Tyr							
				405											

<210> 36

<211> 767



<212> DNA  
<213> Homo sapiens

<220>  
<221> CDS  
<222> (2)...(716)

<400> 36

c cac atg gtg gcc atc gtc ccc gac ttg ctg caa ggc cgg ctg gac ttc 49  
His Met Val Ala Ile Val Pro Asp Leu Leu Gln Gly Arg Leu Asp Phe  
1 5 10 15

ccg ggc ttc gtg cag acc agc ctg gca acg ctg cgc ttc ttc tgc tac 97  
Pro Gly Phe Val Gln Thr Ser Leu Ala Thr Leu Arg Phe Phe Cys Tyr  
20 25 30

atc gtg ggc ctg agt ctc ctg gcg gcc gtc agc gtg gag cag tgc ctg 145  
Ile Val Gly Leu Ser Leu Leu Ala Ala Val Ser Val Glu Gln Cys Leu  
35 40 45

gcc gcc ctc ttc cca gcc tgg tac tcg tgc cgc cgc cca cgc cac ctg 193  
Ala Ala Leu Phe Pro Ala Trp Tyr Ser Cys Arg Arg Pro Arg His Leu  
50 55 60

acc acc tgt gtg tgc gcc ctc acc tgg gcc ctc tgc ctg ctg ctg cac 241  
Thr Thr Cys Val Cys Ala Leu Thr Trp Ala Leu Cys Leu Leu Leu His  
65 70 75 80

ctg ctg ctc agc agc gcc tgc acc cag ttc ttc ggg gag ccc agc cgc 289  
Leu Leu Leu Ser Ser Ala Cys Thr Gln Phe Phe Gly Glu Pro Ser Arg  
85 90 95

cac ttg tgc cgg acg ctg tgg ctg gtg gca gcg gtg ctg ctg gct ctg 337  
His Leu Cys Arg Thr Leu Trp Leu Val Ala Ala Val Leu Leu Ala Leu  
100 105 110

ctg tgt tgc acc atg tgt ggg gcc agc ctt atg ctg ctg ctg cgg gtg 385  
Leu Cys Cys Thr Met Cys Gly Ala Ser Leu Met Leu Leu Leu Arg Val  
115 120 125

gag cga ggc ccc cag cgg ccc cca ccc cgg ggc ttc cct ggg ctc atc 433  
Glu Arg Gly Pro Gln Arg Pro Pro Pro Arg Gly Phe Pro Gly Leu Ile  
130 135 140

ctc ctc acc gtc ctc ctc ttc ctc ttc tgc ggc ctg ccc ttc ggc atc 481  
Leu Leu Thr Val Leu Leu Phe Leu Phe Cys Gly Leu Pro Phe Gly Ile  
145 150 155 160

tac tgg ctg tcc cgg aac ctg ctc tgg tac atc ccc cac tac ttc tac 529  
Tyr Trp Leu Ser Arg Asn Leu Leu Trp Tyr Ile Pro His Tyr Phe Tyr  
165 170 175

cac ttc agc ttc ctc atg gcc gcc gtg cac tgc gcg gcc aag ccc gtc 577  
His Phe Ser Phe Leu Met Ala Ala Val His Cys Ala Ala Lys Pro Val  
180 185 190

gtc tac ttc tgc ctg ggc agt gcc cag ggc cgc agg ctg ccc ctc cgg 625

Val Tyr Phe Cys Leu Gly Ser Ala Gln Gly Arg Arg Leu Pro Leu Arg  
195 200 205

ctg gtc ctc cag cga gcg ctg gga gac gag gct gag ctg ggg gcc gtc 673  
Leu Val Leu Gln Arg Ala Leu Gly Asp Glu Ala Glu Leu Gly Ala Val  
210 215 220

agg gag acc tcc cgc cgg ggc ctg gtg gac ata gca gcc tga g 716  
Arg Glu Thr Ser Arg Arg Gly Leu Val Asp Ile Ala Ala \*  
225 230 235

ccctgggggcc cccgacccca gctgcagccc ccgtgaggca agaggggtgac t 767

<210> 37

<211> 237

<212> PRT

<213> Homo sapiens

<400> 37

His Met Val Ala Ile Val Pro Asp Leu Leu Gln Gly Arg Leu Asp Phe  
1 5 10 15  
Pro Gly Phe Val Gln Thr Ser Leu Ala Thr Leu Arg Phe Phe Cys Tyr  
20 25 30  
Ile Val Gly Leu Ser Leu Leu Ala Ala Val Ser Val Glu Gln Cys Leu  
35 40 45  
Ala Ala Leu Phe Pro Ala Trp Tyr Ser Cys Arg Arg Pro Arg His Leu  
50 55 60  
Thr Thr Cys Val Cys Ala Leu Thr Trp Ala Leu Cys Leu Leu Leu His  
65 70 75 80  
Leu Leu Leu Ser Ser Ala Cys Thr Gln Phe Phe Gly Glu Pro Ser Arg  
85 90 95  
His Leu Cys Arg Thr Leu Trp Leu Val Ala Ala Val Leu Leu Ala Leu  
100 105 110  
Leu Cys Cys Thr Met Cys Gly Ala Ser Leu Met Leu Leu Leu Arg Val  
115 120 125  
Glu Arg Gly Pro Gln Arg Pro Pro Pro Arg Gly Phe Pro Gly Leu Ile  
130 135 140  
Leu Leu Thr Val Leu Leu Phe Leu Phe Cys Gly Leu Pro Phe Gly Ile  
145 150 155 160  
Tyr Trp Leu Ser Arg Asn Leu Leu Trp Tyr Ile Pro His Tyr Phe Tyr  
165 170 175  
His Phe Ser Phe Leu Met Ala Ala Val His Cys Ala Ala Lys Pro Val  
180 185 190  
Val Tyr Phe Cys Leu Gly Ser Ala Gln Gly Arg Arg Leu Pro Leu Arg  
195 200 205  
Leu Val Leu Gln Arg Ala Leu Gly Asp Glu Ala Glu Leu Gly Ala Val  
210 215 220  
Arg Glu Thr Ser Arg Arg Gly Leu Val Asp Ile Ala Ala  
225 230 235

<210> 38

<211> 1361

<212> DNA

<213> Mus musculus

<220>

<221> CDS

<222> (48)...(1064)

<400> 38

```
tctttttttt ttttcattgc agaactgaga ttgcaccact cctgaaa atg gac tta 56
                                         Met Asp Leu
                                         1

gtc atc caa gac tgg acc att aat att aca gca ctg aaa gaa agc aat 104
Val Ile Gln Asp Trp Thr Ile Asn Ile Thr Ala Leu Lys Glu Ser Asn
      5              10              15

gac aat gga ata tca ttt tgt gaa gtt gtg tct cgt acc atg act ttt 152
Asp Asn Gly Ile Ser Phe Cys Glu Val Val Ser Arg Thr Met Thr Phe
      20              25              30              35

ctt tcc ctc atc att gcc tta gtt ggg ctg gtt gga aat gcc aca gtg 200
Leu Ser Leu Ile Ile Ala Leu Val Gly Leu Val Gly Asn Ala Thr Val
              40              45              50

tta tgg ttt ctg ggc ttc cag atg agc agg aat gcc ttc tct gtc tac 248
Leu Trp Phe Leu Gly Phe Gln Met Ser Arg Asn Ala Phe Ser Val Tyr
              55              60              65

atc ctc aac ctt gct ggt gct gac ttt gtc ttc atg tgc ttt caa att 296
Ile Leu Asn Leu Ala Gly Ala Asp Phe Val Phe Met Cys Phe Gln Ile
              70              75              80

gta cat tgt ttt tat att atc tta gac atc tac ttc atc ccc act aat 344
Val His Cys Phe Tyr Ile Ile Leu Asp Ile Tyr Phe Ile Pro Thr Asn
      85              90              95

ttt ttt tca tct tac act atg gtg tta aac att gct tac ctt agt ggt 392
Phe Phe Ser Ser Tyr Thr Met Val Leu Asn Ile Ala Tyr Leu Ser Gly
      100              105              110              115

ctg agc atc ctc act gtc att agc act gaa cgc ttc cta tct gtc atg 440
Leu Ser Ile Leu Thr Val Ile Ser Thr Glu Arg Phe Leu Ser Val Met
              120              125              130

tgg ccc atc tgg tac cgc tgc caa cgc cca agg cac aca tca gct gtc 488
Trp Pro Ile Trp Tyr Arg Cys Gln Arg Pro Arg His Thr Ser Ala Val
              135              140              145

ata tgt act gtg ctt tgg gtc ttg tcc ctg gtg ttg agc ctc ctg gaa 536
Ile Cys Thr Val Leu Trp Val Leu Ser Leu Val Leu Ser Leu Leu Glu
              150              155              160

gga aag gaa tgt ggc ttc cta tat tac act agt ggc cct ggt ttg tgt 584
Gly Lys Glu Cys Gly Phe Leu Tyr Tyr Thr Ser Gly Pro Gly Leu Cys
      165              170              175

aag aca ttt gat tta atc act act gca tgg tta att gtt tta ttt gtg 632
Lys Thr Phe Asp Leu Ile Thr Thr Ala Trp Leu Ile Val Leu Phe Val
      180              185              190              195

gtt ctc ttg gga tcc agt ctg gcc ttg gtg ctt acc atc ttc tgt ggc 680
```

Val Leu Leu Gly Ser Ser Leu Ala Leu Val Leu Thr Ile Phe Cys Gly  
200 205 210

tta cac aag gtt cct gtg acc agg ttg tat gtg acc att gtg ttt aca 728  
Leu His Lys Val Pro Val Thr Arg Leu Tyr Val Thr Ile Val Phe Thr  
215 220 225

gtg ctt gtc ttc ctg atc ttt ggt ctg ccc tat ggg atc tac tgg ttc 776  
Val Leu Val Phe Leu Ile Phe Gly Leu Pro Tyr Gly Ile Tyr Trp Phe  
230 235 240

ctc tta gag tgg att agg gaa ttt cat gat aat aaa cct tgt ggt ttt 824  
Leu Leu Glu Trp Ile Arg Glu Phe His Asp Asn Lys Pro Cys Gly Phe  
245 250 255

cgt aac gtg aca ata ttt ctg tcc tgt att aac agc tgt gcc aac ccc 872  
Arg Asn Val Thr Ile Phe Leu Ser Cys Ile Asn Ser Cys Ala Asn Pro  
260 265 270 275

atc att tac ttc ctt gtt ggc tcc att agg cac cat cgg ttt caa cgg 920  
Ile Ile Tyr Phe Leu Val Gly Ser Ile Arg His His Arg Phe Gln Arg  
280 285 290

aag act ctc aag ctt ctt ctg cag aga gcc atg caa gac tct cct gag 968  
Lys Thr Leu Lys Leu Leu Leu Gln Arg Ala Met Gln Asp Ser Pro Glu  
295 300 305

gag gaa gaa tgt gga gag atg ggt tcc tca aga aga cct aga gaa ata 1016  
Glu Glu Glu Cys Gly Glu Met Gly Ser Ser Arg Arg Pro Arg Glu Ile  
310 315 320

aaa act gtc tgg aag gga ctg aga gct gct ttg atc agg cat aaa tag 1064  
Lys Thr Val Trp Lys Gly Leu Arg Ala Ala Leu Ile Arg His Lys \*  
325 330 335

ctttgaagag aactatgttt ttatcacttt gtggcatttt cataatgttg tttagttgat 1124  
gacccaaggt taactcagtt ggggaagtag tcaatgttgt agaagttgat tgatattgaa 1184  
cttggtataa atactgagta cagtattttt gcagctatct tgctcagagc tttaccaact 1244  
ccatttgatg ggactcctta taagctctat ggggtccagg agaggtgttg accacaattg 1304  
acaaatccct cttcagaaga aaactcaaga aagtgcattt aaaagttata tttcttt 1361

<210> 39  
<211> 338  
<212> PRT  
<213> Mus musculus

<400> 39  
Met Asp Leu Val Ile Gln Asp Trp Thr Ile Asn Ile Thr Ala Leu Lys  
1 5 10 15  
Glu Ser Asn Asp Asn Gly Ile Ser Phe Cys Glu Val Val Ser Arg Thr  
20 25 30  
Met Thr Phe Leu Ser Leu Ile Ile Ala Leu Val Gly Leu Val Gly Asn  
35 40 45  
Ala Thr Val Leu Trp Phe Leu Gly Phe Gln Met Ser Arg Asn Ala Phe  
50 55 60  
Ser Val Tyr Ile Leu Asn Leu Ala Gly Ala Asp Phe Val Phe Met Cys  
65 70 75 80

Phe	Gln	Ile	Val	His	Cys	Phe	Tyr	Ile	Ile	Leu	Asp	Ile	Tyr	Phe	Ile
				85					90					95	
Pro	Thr	Asn	Phe	Phe	Ser	Ser	Tyr	Thr	Met	Val	Leu	Asn	Ile	Ala	Tyr
			100					105					110		
Leu	Ser	Gly	Leu	Ser	Ile	Leu	Thr	Val	Ile	Ser	Thr	Glu	Arg	Phe	Leu
		115					120					125			
Ser	Val	Met	Trp	Pro	Ile	Trp	Tyr	Arg	Cys	Gln	Arg	Pro	Arg	His	Thr
		130				135					140				
Ser	Ala	Val	Ile	Cys	Thr	Val	Leu	Trp	Val	Leu	Ser	Leu	Val	Leu	Ser
		145			150					155					160
Leu	Leu	Glu	Gly	Lys	Glu	Cys	Gly	Phe	Leu	Tyr	Tyr	Thr	Ser	Gly	Pro
				165					170					175	
Gly	Leu	Cys	Lys	Thr	Phe	Asp	Leu	Ile	Thr	Thr	Ala	Trp	Leu	Ile	Val
			180					185					190		
Leu	Phe	Val	Val	Leu	Leu	Gly	Ser	Ser	Leu	Ala	Leu	Val	Leu	Thr	Ile
		195					200					205			
Phe	Cys	Gly	Leu	His	Lys	Val	Pro	Val	Thr	Arg	Leu	Tyr	Val	Thr	Ile
		210				215					220				
Val	Phe	Thr	Val	Leu	Val	Phe	Leu	Ile	Phe	Gly	Leu	Pro	Tyr	Gly	Ile
		225				230				235					240
Tyr	Trp	Phe	Leu	Leu	Glu	Trp	Ile	Arg	Glu	Phe	His	Asp	Asn	Lys	Pro
			245						250					255	
Cys	Gly	Phe	Arg	Asn	Val	Thr	Ile	Phe	Leu	Ser	Cys	Ile	Asn	Ser	Cys
			260					265					270		
Ala	Asn	Pro	Ile	Ile	Tyr	Phe	Leu	Val	Gly	Ser	Ile	Arg	His	His	Arg
		275					280					285			
Phe	Gln	Arg	Lys	Thr	Leu	Lys	Leu	Leu	Leu	Gln	Arg	Ala	Met	Gln	Asp
		290				295					300				
Ser	Pro	Glu	Glu	Glu	Glu	Cys	Gly	Glu	Met	Gly	Ser	Ser	Arg	Arg	Pro
		305			310					315					320
Arg	Glu	Ile	Lys	Thr	Val	Trp	Lys	Gly	Leu	Arg	Ala	Ala	Leu	Ile	Arg
			325					330						335	

His Lys

<210> 40  
 <211> 1278  
 <212> DNA  
 <213> Mus musculus

<400> 40

atttccta	at	caagaatcta	ag	cacctcag	cct	ggaaaac	ga	acatcaca	gt	gctgaatg	60
gaagctacta	cat	cgatact	tc	agtttg	tc	accaggaa	cca	agccatg	at	tttgcttt	120
ccatcatcat	tt	ccctgg	gg	gatgggac	t	aaatgccat	agt	gctgtg	tt	cctgggca	180
tccgatgca	cac	gaatgcc	tt	actgtct	a	cattctcaa	cct	ggctatg	g	ctgactttc	240
tttacatgtg	ct	tcagttt	gt	aatttgtc	tt	cttattgc	ct	tttatatc	tt	ctactcaa	300
ttgacatcaa	cat	ccctttg	gt	tccttatg	tt	gtgccaat	att	gcttat	ct	ttcagggtc	360
tgagcattct	ag	caccatt	ag	cattgagc	g	ctgcttg	tg	aatatgg	cc	catttggt	420
atcgctgtaa	ac	gtccaaga	ca	catcag	ct	atcacatg	tt	ttgtgctt	tg	gggttatgt	480
ccttattg	gg	gtctcctg	ga	agggaa	cat	gtggctt	act	gtttaat	ag	ctttgact	540
cttattgg	tg	aaacattt	gat	gttatca	cta	atatatg	gt	cagttgtt	tt	ttttgg	600
ttctctgtg	gt	ctagcctc	acc	ctgctt	tc	aggatctt	ct	gtggctca	ca	gcgaattc	660
ctatgaccag	g	ctgtatgtg	act	attacac	tc	acagtctt	gg	cttctctg	at	ctttgg	720
ttccctttg	gat	ctattgg	ata	ctctatc	agt	ggattag	ca	atttttat	t	atgttgaaa	780
tttgaattt	tt	atcttgag	ata	ctattcc	t	atctgtgt	ta	acagctgt	at	gaaccca	840
tcatttattt	c	ctgttggc	t	cattaggc	a	ccgaaggtt	c	aggcggaag	a	ctctcaagc	900



<210> 42  
<211> 1009  
<212> DNA  
<213> Mus musculus

<400> 42  
ttttctaagc atggctctaa gaacctcact aataaccacc acagcaccgg ataaaaccag 60  
ccttccaatt tcaatttgta tcatcaagtt ccaagtcatt aatttgcttt ccatcaccat 120  
ttcccctggt gggatggtag tgaatatcat agtgctgtgg ttccctgggct tccagatatg 180  
caggaatgcc ttctctgcct acatcctcaa cctggctgtg gctgattttc tcttcctgtg 240  
ttctcattct atattttctt ttcttattgt ctgcaaaactg cactattttt tattctacat 300  
tagacagctt ttggatactg tgacaatggt tgcttatggt tttggcctga gcattaccac 360  
catcattagc attgagtgtt gcctgtctat catgtggccc atctgggtatc actgccaacg 420  
tccaagacac acatcagctg tcattttgtgt cttgcttttg gctctatctc tgctgtttcc 480  
tgctctgcag atggaaaaat gttagcgtcct gtttaatact tttgaatatt cttgggtgtg 540  
gataatcaat ataattctctg gtgcatgggt agttgtttta tttgtgggtc tctgtgggtt 600  
cagcctcatc ctgctcctca ggatctcctg tggatcacag cagattcctg tgaccaggct 660  
gaatgtaact attgcactca gagggtcact cctcctgac tttgggtattc cctttgggat 720  
cttctgggata-gttgacaaat ggaatgaaga aaattttttc gtttagagctt gtgggtttttc 780  
acatcatata ctatacgtat actgtattaa catctgtgtc aatgctacca tatacttctt 840  
tgttggctcc attaggtcatg gcaagtttca gaagatgact ctgaagctga ttctgcagag 900  
agctatacag ggcacccccg aggaagaagg tggagagagg ggtccttaag gaaataactga 960  
agaactggga acagtctagt gcagcaaccg agagctgctt taataataa 1009

<210> 43  
<211> 312  
<212> PRT  
<213> Mus musculus

<400> 43  
Met Ala Leu Arg Thr Ser Leu Ile Thr Thr Thr Ala Pro Asp Lys Thr  
1 5 10 15  
Ser Leu Pro Ile Ser Ile Cys Ile Ile Lys Phe Gln Val Met Asn Leu  
20 25 30  
Leu Ser Ile Thr Ile Ser Pro Val Gly Met Val Leu Asn Ile Ile Val  
35 40 45  
Leu Trp Phe Leu Gly Phe Gln Ile Cys Arg Asn Ala Phe Ser Ala Tyr  
50 55 60  
Ile Leu Asn Leu Ala Val Ala Asp Phe Leu Phe Leu Cys Ser His Ser  
65 70 75 80  
Ile Phe Ser Phe Leu Ile Val Cys Lys Leu His Tyr Phe Leu Phe Tyr  
85 90 95  
Ile Arg Gln Leu Leu Asp Thr Val Thr Met Phe Ala Tyr Val Phe Gly  
100 105 110  
Leu Ser Ile Thr Thr Ile Ile Ser Ile Glu Cys Cys Leu Ser Ile Met  
115 120 125  
Trp Pro Ile Trp Tyr His Cys Gln Arg Pro Arg His Thr Ser Ala Val  
130 135 140  
Ile Cys Val Leu Leu Trp Ala Leu Ser Leu Leu Phe Pro Ala Leu Gln  
145 150 155 160  
Met Glu Lys Cys Ser Val Leu Phe Asn Thr Phe Glu Tyr Ser Trp Cys  
165 170 175  
Gly Ile Ile Asn Ile Ile Ser Gly Ala Trp Leu Val Val Leu Phe Val  
180 185 190

Val	Leu	Cys	Gly	Phe	Ser	Leu	Ile	Leu	Leu	Leu	Arg	Ile	Ser	Cys	Gly
		195					200				205				
Ser	Gln	Gln	Ile	Pro	Val	Thr	Arg	Leu	Asn	Val	Thr	Ile	Ala	Leu	Arg
	210					215				220					
Val	Leu	Leu	Leu	Leu	Ile	Phe	Gly	Ile	Pro	Phe	Gly	Ile	Phe	Trp	Ile
225					230				235					240	
Val	Asp	Lys	Trp	Asn	Glu	Glu	Asn	Phe	Phe	Val	Arg	Ala	Cys	Gly	Phe
			245					250					255		
Ser	His	His	Ile	Leu	Tyr	Val	Tyr	Cys	Ile	Asn	Ile	Cys	Val	Asn	Ala
		260					265					270			
Thr	Ile	Tyr	Phe	Leu	Val	Gly	Ser	Ile	Arg	His	Gly	Lys	Phe	Gln	Lys
	275					280					285				
Met	Thr	Leu	Lys	Leu	Ile	Leu	Gln	Arg	Ala	Ile	Gln	Gly	Thr	Pro	Glu
	290				295						300				
Glu	Glu	Gly	Gly	Glu	Arg	Gly	Pro								
305					310										

<210> 44  
 <211> 1219  
 <212> DNA  
 <213> Mus musculus

<400> 44  
 tttatggacc tgtgccagat attcctacat aatcacatgg tcctgactga gactatcttg 60  
 tgttcatatc tgcatttctt tgcaggaatg ccagtggaag attcctaagc atgggtacaa 120  
 ccacctggc ctggaacatt aacaacaccg ctgaaaatgg aagttacact gaaatgttct 180  
 cctgtatcac caagttcaat accctgaatt ttcttactgt catcatagct gtggttggcc 240  
 tggcaggaaa cggcatagtg ctatggcttc tagccttcca cctgcatagg aatgccttct 300  
 ctgtctatgt cctcaatctg gctgggtgctg atttcttgta ccttttcaact caagttgtgc 360  
 attccctgga atgtgtcctt cagttagata ataactcctt ttatatcttc ctcatgttaa 420  
 caatgtttgc ttaccttgca ggtttgtgta tgattgcagc catcagtgct gaacgctgcc 480  
 tatctgttat gtggcctatc tgggtatcact gccaaagacc aagacacaca tcagccatca 540  
 tgtgtgctct ggtctgggtt tcctctctat tgttgagcct cgtggtaggg ctaggctgtg 600  
 gttttctgtt cagttattat gattattatt tctgtattac tttgaatttt atcactgctg 660  
 catttttaat agtgttatct gtggttcttt ctgtatctag cctggccctg ttggtgaaga 720  
 ttgtgtgggg gtcacacagg attcctgtga ccagggttctt tgtgaccatt gctctcacag 780  
 tgggtgctct catatacttt ggcatgccct ttggtatctg ctggttcttc ttatcaagga 840  
 ttatggagtt tgatagcatt ttctttaaca atgtttatga aataatagaa ttctgtcct 900  
 gtgttaacag ctgtgccaat cccatcattt acttccttgt tggctccatt agacaacaca 960  
 ggttgcatg gcagtctctg aagctacttc ttcagagagc catgcaggac actcctgagg 1020  
 aagagagtgg agagaggggt ccttcgcaaa ggtctgggga actggaaaca gtctagtaca 1080  
 gtagttgagt gagtccctgg tcaaacatag tttctgtgag agtcaatttt gcctttatct 1140  
 atataagcaa ttttcataat ttgtttaatc agtagagaat atagtcattt tatagaaatt 1200  
 aggagaaatg agcttggtta 1219

<210> 45  
 <211> 321  
 <212> PRT  
 <213> Mus musculus

<400> 45  
 Met Gly Thr Thr Thr Leu Ala Trp Asn Ile Asn Asn Thr Ala Glu Asn  
 1 5 10 15  
 Gly Ser Tyr Thr Glu Met Phe Ser Cys Ile Thr Lys Phe Asn Thr Leu  
 20 25 30  
 Asn Phe Leu Thr Val Ile Ile Ala Val Val Gly Leu Ala Gly Asn Gly





```

ggttctatgt gaccattgct ctcacattgg tggctcttcat attcttgggt ctgccctttg 780
ggatttactc atctttcttg ataatgttta aggagtttca aagcattttc tcttaccatg 840
tccttgaagt gacaatattc ctgtcctgtg ttaacagctg tgccaatccc atcatttact 900
ttcttgttgg ctccattagg cagcacaggt tgcaatggca gtctctgaag ctacttcttc 960
agagagccat gcaggacact cctgaggaag atagtggaga gaggggtccc tcacaaagggt 1020
ctggggaact ggaaagtgtt tagtgcagta gttgagttag tctttgatca gacatgggta 1080
ctctgagagt cagttttgcc tttgtttatg taagcaattt tcacaatctt gtacaatttg 1140
taaagaaata gtcattttat agaaattggg agaaaagggc ttgttacaca gaaactgagt 1200
gcaacaccat aaagctgtct tatgtgggtc tcattacatt ctcttgtgat ataagccttg 1260
taatcacttg ggaacaaaac t 1281

```

<210> 47

<211> 322

<212> PRT

<213> Mus musculus

<400> 47

```

Met Gly Leu Thr Thr Pro Ala Trp Asn Ile Asn Asn Thr Val Val Asn
  1           5           10           15
Gly Ser Asn Asn Thr Glu His Phe Ser Cys Val Ser Lys Phe Asn Thr
          20           25           30
Leu Asn Phe Leu Thr Val Ile Ile Ala Met Phe Gly Leu Ala Gly Asn
          35           40           45
Ala Ile Val Leu Trp Leu Leu Ala Phe His Leu Pro Arg Asn Ala Phe
          50           55           60
Ser Val Tyr Val Cys Asn Leu Ala Cys Ala Asp Phe Leu Gln Leu Cys
          65           70           75           80
Thr Gln Ile Leu Gly Ser Leu Glu Cys Phe Leu Gln Leu Asn Arg Arg
          85           90           95
His Thr Phe Phe Leu Thr Val Val Phe Met Phe Ala Tyr Leu Ala Gly
          100          105          110
Leu Cys Met Ile Ala Ala Ile Ser Val Glu Arg Ser Leu Ser Val Met
          115          120          125
Trp Pro Ile Trp Tyr His Cys Gln Arg Pro Arg His Thr Ser Ser Ile
          130          135          140
Met Cys Ala Leu Leu Trp Ala Phe Cys Leu Leu Leu Asn Phe Leu Leu
          145          150          155          160
Gly Glu Gly Cys Gly Leu Leu Phe Ser Asp Pro Lys Tyr Tyr Phe Cys
          165          170          175
Ile Thr Cys Ala Leu Ile Thr Thr Ala Leu Ile Ile Leu Leu Thr Val
          180          185          190
Val Pro Ser Val Ser Ser Leu Ala Leu Leu Val Lys Met Ile Cys Gly
          195          200          205
Ser His Arg Ile Pro Val Thr Arg Phe Tyr Val Thr Ile Ala Leu Thr
          210          215          220
Leu Val Val Phe Ile Phe Leu Gly Leu Pro Phe Gly Ile Tyr Ser Ser
          225          230          235          240
Phe Leu Ile Met Phe Lys Glu Phe Gln Ser Ile Phe Ser Tyr His Val
          245          250          255
Leu Glu Val Thr Ile Phe Leu Ser Cys Val Asn Ser Cys Ala Asn Pro
          260          265          270
Ile Ile Tyr Phe Leu Val Gly Ser Ile Arg Gln His Arg Leu Gln Trp
          275          280          285
Gln Ser Leu Lys Leu Leu Leu Gln Arg Ala Met Gln Asp Thr Pro Glu
          290          295          300
Glu Asp Ser Gly Glu Arg Val Pro Ser Gln Arg Ser Gly Glu Leu Glu
          305          310          315          320

```

Ser Val

<210> 48  
<211> 1280  
<212> DNA  
<213> Mus musculus

<400> 48  
ccccactagt tcataacaca gaatttaaca tgggttcttc ttccacccat aggaatgaac 60  
tccactcttg acagcagccc agctccaggt ctgaccatca gtcccacccat ggaccttggtg 120  
acctggatct acttttcagt gacattcctc gccatggcca cgtgtgtggg gggggatggc 180  
aggcaactca ttggtgattt ggctcctgag ctgcaatggc atgcagaggt ctcccttctg 240  
tgtctatgtg ctcaacctgg cgggtggctga ctctctcttc ttattctgca tggcctccat 300  
gctcagcctg gaaacagggc ccctgctcat agtcaacatt tctgcaaaa tctatgaagg 360  
gatgaggaga atcaagtact ttgcctatac agcaggcctg agcctgctga cagccatcag 420  
caccacagcg tgcctctccg tgcttttccc catctggtat aagtgccacc ggccccggca 480  
cctgtcatca gtgggtatctg gtgcactctg ggcactggcc ttcttgatga acttctctggc 540  
ttctttcttc tgcgtccaat tctggcatcc caacaaacac cagtgttca aggtggacat 600  
tgttttcaac agtcttatcc tggggatctt catgccggtc atgacctga ccagcaccat 660  
cctcttcacg cgggtgcgga-agaacagcct gatgcagaga-cggcggeccc-ggcggctgta- 720  
cgtggtcatc ctgacttcca tccttgtctt cctcacctgt tctctgccct tgggcatcaa 780  
ctggttctta ctctactggg tggatgtgaa acgggatgtg aggtacttt atagctgcgt 840  
atcacgcttc tcttcgtctt tgagcagcag tgccaaccog gtcatttact tctcgtggg 900  
cagccagaag agccaccggc tgcaggagtc cctgggtgct gtgctggggc gggcactgcg 960  
ggatgagcct gagccagagg gcagagagac gccatccacg tgtactaatg atggggctctg 1020  
aaggagagcc aaccaggaac tcctccaaag cccacccag cccttccta aaagtacca 1080  
gcaagcctgc aatgcaaagg ccttgcacct caaatgttt gggcacggt cctctctgcc 1140  
agggaggggt caccactatc accttgtgtt cctaacttaa actaagagg gaggaatat 1200  
atctttctgt tttacctgtt tagacacaga tcctaacttt ggggtccatc atgggcaagg 1260  
ctgtctggga aatggagttt 1280

<210> 49  
<211> 281  
<212> PRT  
<213> Mus musculus

<400> 49  
Met Ala Gly Asn Ser Leu Val Ile Trp Leu Leu Ser Cys Asn Gly Met  
1 5 10 15  
Gln Arg Ser Pro Phe Cys Val Tyr Val Leu Asn Leu Ala Val Ala Asp  
20 25 30  
Phe Leu Phe Leu Phe Cys Met Ala Ser Met Leu Ser Leu Glu Thr Gly  
35 40 45  
Pro Leu Leu Ile Val Asn Ile Ser Ala Lys Ile Tyr Glu Gly Met Arg  
50 55 60  
Arg Ile Lys Tyr Phe Ala Tyr Thr Ala Gly Leu Ser Leu Leu Thr Ala  
65 70 75 80  
Ile Ser Thr Gln Arg Cys Leu Ser Val Leu Phe Pro Ile Trp Tyr Lys  
85 90 95  
Cys His Arg Pro Arg His Leu Ser Ser Val Val Ser Gly Ala Leu Trp  
100 105 110  
Ala Leu Ala Phe Leu Met Asn Phe Leu Ala Ser Phe Phe Cys Val Gln  
115 120 125  
Phe Trp His Pro Asn Lys His Gln Cys Phe Lys Val Asp Ile Val Phe  
130 135 140

Asn	Ser	Leu	Ile	Leu	Gly	Ile	Phe	Met	Pro	Val	Met	Ile	Leu	Thr	Ser
145					150					155				160	
Thr	Ile	Leu	Phe	Ile	Arg	Val	Arg	Lys	Asn	Ser	Leu	Met	Gln	Arg	Arg
			165					170					175		
Arg	Pro	Arg	Arg	Leu	Tyr	Val	Val	Ile	Leu	Thr	Ser	Ile	Leu	Val	Phe
			180					185					190		
Leu	Thr	Cys	Ser	Leu	Pro	Leu	Gly	Ile	Asn	Trp	Phe	Leu	Leu	Tyr	Trp
		195					200					205			
Val	Asp	Val	Lys	Arg	Asp	Val	Arg	Leu	Leu	Tyr	Ser	Cys	Val	Ser	Arg
	210					215					220				
Phe	Ser	Ser	Ser	Leu	Ser	Ser	Ser	Ala	Asn	Pro	Val	Ile	Tyr	Phe	Leu
225					230					235					240
Val	Gly	Ser	Gln	Lys	Ser	His	Arg	Leu	Gln	Glu	Ser	Leu	Gly	Ala	Val
			245						250					255	
Leu	Gly	Arg	Ala	Leu	Arg	Asp	Glu	Pro	Glu	Pro	Glu	Gly	Arg	Glu	Thr
			260					265					270		
Pro	Ser	Thr	Cys	Thr	Asn	Asp	Gly	Val							
		275					280								

<210> 50  
 <211> 1170  
 <212> DNA  
 <213> Mus musculus

<400> 50  
 gacttctgca gacatcagcc atgacgtccc tgagcgtgca cacagattct cccagcacc 60  
 agggagaaat ggctttcaac ctgaccatcc tgtccctcac agagctcctc agcctgggag 120  
 ggctgctggg caatggagtg gccctctggc tgctcaacca aaatgtctac aggaaccctt 180  
 tctccatcta tctcttggat gtggcctgcg ccgacctcat ctccctctgc tgccacatgg 240  
 tggccatcat cctgagctg ctgcaggacc agctgaactt ccctgaattt gtacatatca 300  
 gcctgaccat gctgcggttc ttctgctaca ttgtgggcct gagcctcctg gcggccatca 360  
 gcacggagca gtgcctggcc actctcttcc ctgcctggta cctgtgccgc cgcccacgct 420  
 acctgaccac ctgtgtgtgt gcgctcatct ggggtgctctg cctgtactctg gacctgctgc 480  
 tgagcggcgc ctgcacccag ttctttggag caccagcta ccacctgtgt gacatgctgt 540  
 ggctggtggt ggcagttctc ctggctgccc tgtgctgcac catgtgtgtg accagcctgc 600  
 tctgtctgct gcgggtggag cgtgggtccag agagacacca gcctcggggc ttccccacc 660  
 tggctctgct ggccgtcctg ctcttctctt tctgcggcct gccctttggc atcttctggc 720  
 tgtccaagaa cctgtcctgg cacatcccc tctacttcta tcatttcagc ttcttcatgg 780  
 ccagtgtgca cagtgcagcc aagcctgcca tctacttttt cttgggcagc acacctggcc 840  
 agaggtttcg ggaaccctc cggtgtgtgc tccagcgggc acttgagat gaggtgagc 900  
 tgggagctgg gagagaggct tcccaagggg gacttgtgga catgactgtc taagcacagt 960  
 gggtcacaac tgcagcttca gcccatgggg gtccaggagg gctgcctgat gtaggtaaag 1020  
 ctgggatcag agctccatca gtaagactct tgagggacat ctttgctgat gaccagtgct 1080  
 tgtgtcccct gggaggattc tgggaagggg caagcagaga gtgatgcttc tgtggagggc 1140  
 ctgggggtgt gtgtgttagg cagagctcct 1170

<210> 51  
 <211> 310  
 <212> PRT  
 <213> Mus musculus

<400> 51  
 Met Thr Ser Leu Ser Val His Thr Asp Ser Pro Ser Thr Gln Gly Glu  
 1 5 10 15  
 Met Ala Phe Asn Leu Thr Ile Leu Ser Leu Thr Glu Leu Leu Ser Leu  
 20 25 30

Gly	Gly	Leu	Leu	Gly	Asn	Gly	Val	Ala	Leu	Trp	Leu	Leu	Asn	Gln	Asn		
		35					40				45						
Val	Tyr	Arg	Asn	Pro	Phe	Ser	Ile	Tyr	Leu	Leu	Asp	Val	Ala	Cys	Ala		
		50				55					60						
Asp	Leu	Ile	Phe	Leu	Cys	Cys	His	Met	Val	Ala	Ile	Ile	Pro	Glu	Leu		
65					70					75					80		
Leu	Gln	Asp	Gln	Leu	Asn	Phe	Pro	Glu	Phe	Val	His	Ile	Ser	Leu	Thr		
			85						90					95			
Met	Leu	Arg	Phe	Phe	Cys	Tyr	Ile	Val	Gly	Leu	Ser	Leu	Leu	Ala	Ala		
			100					105						110			
Ile	Ser	Thr	Glu	Gln	Cys	Leu	Ala	Thr	Leu	Phe	Pro	Ala	Trp	Tyr	Leu		
		115					120					125					
Cys	Arg	Arg	Pro	Arg	Tyr	Leu	Thr	Thr	Cys	Val	Cys	Ala	Leu	Ile	Trp		
		130				135					140						
Val	Leu	Cys	Leu	Leu	Leu	Asp	Leu	Leu	Leu	Ser	Gly	Ala	Cys	Thr	Gln		
145					150					155					160		
Phe	Phe	Gly	Ala	Pro	Ser	Tyr	His	Leu	Cys	Asp	Met	Leu	Trp	Leu	Val		
			165					170						175			
Val	Ala	Val	Leu	Leu	Ala	Ala	Leu	Cys	Cys	Thr	Met	Cys	Val	Thr	Ser		
			180					185					190				
Leu	Leu	Leu	Leu	Leu	Arg	Val	Glu	Arg	Gly	Pro	Glu	Arg	His	Gln	Pro		
		195					200					205					
Arg	Gly	Phe	Pro	Thr	Leu	Val	Leu	Leu	Ala	Val	Leu	Leu	Phe	Leu	Phe		
		210				215						220					
Cys	Gly	Leu	Pro	Phe	Gly	Ile	Phe	Trp	Leu	Ser	Lys	Asn	Leu	Ser	Trp		
225					230					235					240		
His	Ile	Pro	Leu	Tyr	Phe	Tyr	His	Phe	Ser	Phe	Phe	Met	Ala	Ser	Val		
			245						250					255			
His	Ser	Ala	Ala	Lys	Pro	Ala	Ile	Tyr	Phe	Phe	Leu	Gly	Ser	Thr	Pro		
		260						265					270				
Gly	Gln	Arg	Phe	Arg	Glu	Pro	Leu	Arg	Leu	Val	Leu	Gln	Arg	Ala	Leu		
		275					280					285					
Gly	Asp	Glu	Ala	Glu	Leu	Gly	Ala	Gly	Arg	Glu	Ala	Ser	Gln	Gly	Gly		
	290					295					300						
Leu	Val	Asp	Met	Thr	Val												
305					310												

<210> 52  
 <211> 1519  
 <212> DNA  
 <213> Mus musculus

<400> 52  
 tgtgttccca gcagcaccca gtgcagggtt tctggcccta aacatytyma gcctccacaa 60  
 tggcactcac aacaacaaaa tccaatggac gaaacccatc ccctggaagt accagcatca 120  
 agattctgat cccaaacttg atgatcatca tctttggact ggtcgggctg acaggaaacg 180  
 ccattgtgtt ctggctcctg ggcttccact tgcgcaggaa tgccttctca gtctacatcc 240  
 taaacttggc cctggctgac ttctcttcc tctctgtcg catcatagct tccacgcaga 300  
 aacttctcac gttctcctca cccaacatta cttttctcat ttgcctttac accttcaggg 360  
 tgattctcta catcgcaggc ctgagcatgc tcaactgccat cagcattgag cgctgcctgt 420  
 ctgtcctgtg ccccatctgg tatcgtgcc accgccaga acacacatca actgtcatgt 480  
 gtgctgcaat ctgggtcctg tccctgttga tctgcattct gaataggtat ttctgcgggt 540  
 tcttagatac caaatatgta aatgactatg ggtgtatggc atcaaatttc tttaatgctg 600  
 catacctgat gtttttgttt gtagtcctct gtgtgtccag cctggctctg ctggccagg 660  
 tgttctgtgg cactgggcgg atgaagctta ccagattgta cgtgaccatc atgctgacca 720  
 ttttggtttt tctcctctgc gggttgcct gtggcttata ctggttctctg ttattctgga 780

```

ttaagaatgg ttttgctgta tttgatttta acttttatct agcatcaact gtcctgagtg 840
ctattaatag ctctgccaac cccatcattt acttcttcgt gggctcattc aggcacggt 900
tgaagacca gaccctcaaa atggttctcc agagtgcact gcaggatact cctgagacag 960
ctgaaaacat ggtggagatg tcaagaagca aagcagagcc gtgatgaaga gcctctgcct 1020
ggacctcgga ggtagctttg gagtgagcac ttccctgctg caattgacca ctgtccactc 1080
tcctctcagc ttactgactc aacatgcctc agtgggccac caacatcttc aacagctctc 1140
cattgattta gtttttctaa ctctcccaag taatagcatt aatcagaaaag tatcatgtct 1200
gcaccccttct tgacattaat caaattctca aactaacttc ctctgaagct ttcttgctga 1260
ttctttggaa cttttgttgc catggaacta gcccaggctc agaaccatga ctctcgtatc 1320
tgtgatggtt ctgtacctga atataaagac aaaggagcct agagatgatc ctgtccattc 1380
ccaaatacca cctagagagc tgggtctcca ggattgcaga caagcctgtg agcacaggta 1440
agaccaccac ttctgctcaa agggacatgc ctggaactac tcaggacaca ggtacagagg 1500
agcattttgg gacaagata                                     1519

```

<210> 53

<211> 303

<212> PRT

<213> Mus musculus

<400> 53

```

Asn Pro Ser Pro Gly Ser Thr Ser Ile Lys Ile Leu Ile Pro Asn Leu
1      5      10      15
Met Ile Ile Ile Phe Gly Leu Val Gly Leu Thr Gly Asn Ala Ile Val
20      25      30
Phe Trp Leu Leu Gly Phe His Leu Arg Arg Asn Ala Phe Ser Val Tyr
35      40      45
Ile Leu Asn Leu Ala Leu Ala Asp Phe Leu Phe Leu Leu Cys Arg Ile
50      55      60
Ile Ala Ser Thr Gln Lys Leu Leu Thr Phe Ser Ser Pro Asn Ile Thr
65      70      75      80
Phe Leu Ile Cys Leu Tyr Thr Phe Arg Val Ile Leu Tyr Ile Ala Gly
85      90      95
Leu Ser Met Leu Thr Ala Ile Ser Ile Glu Arg Cys Leu Ser Val Leu
100     105     110
Cys Pro Ile Trp Tyr Arg Cys His Arg Pro Glu His Thr Ser Thr Val
115     120     125
Met Cys Ala Ala Ile Trp Val Leu Ser Leu Leu Ile Cys Ile Leu Asn
130     135     140
Arg Tyr Phe Cys Gly Phe Leu Asp Thr Lys Tyr Val Asn Asp Tyr Gly
145     150     155     160
Cys Met Ala Ser Asn Phe Phe Asn Ala Ala Tyr Leu Met Phe Leu Phe
165     170     175
Val Val Leu Cys Val Ser Ser Leu Ala Leu Leu Ala Arg Leu Phe Cys
180     185     190
Gly Thr Gly Arg Met Lys Leu Thr Arg Leu Tyr Val Thr Ile Met Leu
195     200     205
Thr Ile Leu Val Phe Leu Leu Cys Gly Leu Pro Cys Gly Leu Tyr Trp
210     215     220
Phe Leu Leu Phe Trp Ile Lys Asn Gly Phe Ala Val Phe Asp Phe Asn
225     230     235     240
Phe Tyr Leu Ala Ser Thr Val Leu Ser Ala Ile Asn Ser Ser Ala Asn
245     250     255
Pro Ile Ile Tyr Phe Phe Val Gly Ser Phe Arg His Arg Leu Lys His
260     265     270
Gln Thr Leu Lys Met Val Leu Gln Ser Ala Leu Gln Asp Thr Pro Glu
275     280     285
Thr Ala Glu Asn Met Val Glu Met Ser Arg Ser Lys Ala Glu Pro

```

290

295

300

<210> 54  
 <211> 2093  
 <212> DNA  
 <213> Mus musculus

<400> 54

```

tggtatgcac tcactgataa gcggatatag cccaaaagct gcaaacaacc aggataaaat 60
tcacagacca catgaagctc aataagaagg aagaacaaag tgtaggtgtt tcagtccttc 120
ttagaaggag aacaaaatac tcacaggagc aaatatggag atacagtata gagcagagac 180
taaaggaaaag gtcattcaga gactgtccca actggggatt cattccatat agagatacca 240
aaccagact ctaaattgga tgcaaacaag tgcattgcca aaggagctag ataaggtaac 300
cctgtctcaa aaaaaaaaaa aaggctgtca cctgaaaggc cctgtcaaag gcttacaaat 360
acagaagcag atgttagtag tcaacaattg gacagagcat ggggttccta atagaggagt 420
tagaggaagg aattagggag ttgaagggat ttgcagcccc ataagaacaa caatatcaac 480
caaccggaca ctccccaga tatcacaggg tctaagccat caacaaagga gtacacatgg 540
ctccagatgc acatatagca gaggacggcc atgtcatgca tcaatggaag aagagatcct 600
tgtacctatg aaggatcgat agatgaccca gtgtagggga atcaaggaca gaaagggttg 660
agtggatgtg tggactggcc ggactgacag gaaatgccat tgtgttctgg ctctgtctct 720
tccacttgca caggaatgct ttctcaatct acatcttaaa tttggtcata gctgacttcc 780
ttttcctcct tggtcacatc atagcttcca caatgcaact tctcaagggt tcttacctca 840
acattatatt tctttaccgt ttttacacaa tcatgatggg gctctacaac acaggcctga 900
ccatgctcag tgccatcaac actaagcact gcctgtctgt cctgtgtccc atctggatat 960
gctcccactg cacaaaacac acatcaactg tcatatgtgc tgctatacgg gacctgtccc 1020
tggtgatctg ctttctgaat acgtatttct gtggtctctt agataccaaa tataaaaatg 1080
acaatgggtg tctggcatcg aatttcttta ttaatgcata ccctgatgtt tttgtttgta 1140
gtcctactgt ctgtccactc tggctctgct ggccagggtg ttctgtggtg ctgggaagat 1200
gaaatttaca agattattcg tgaccatcat gctgacagtt ttagtttttc tctctgtgg 1260
gttgccctct gccatctact gggtcctggt aatctggatt aagattgatt atggtgtatt 1320
tgcttatgat gtttttctgg catcactcgt cctgagtgtt gttaacagct gtgccaaacc 1380
catcatttac ttcttctggt gctctttcag gcacgggtg aagcaccaaa ccctcaaaat 1440
ggttctccag aatgtactgc aggacactcc tgagacagct gaaaacatgg tagagatgtc 1500
aagaggcaaa gcagagccat gatgaagagc ctctgcctgg agctcagagg tggctttgga 1560
gtgagcactg ccctgatgta cttgaccact gtccactctc ctctcagctt actgactaga 1620
catgcctcag tgggtccacca tctccaagag ctctccactg actttgtttt ctacctctcc 1680
tgaataatag cattaatcag aaagtatcat gtctacatcc ttcttgacat taatcaaatt 1740
ctcatgctat cttcccctga agctttcttg ctgtttcttt gggacttttt gttgccatgg 1800
aaataacaaa ggtccagaac catgactctc ttgcctgtga ttgttctgta cctgaatgta 1860
aagataaagg agccaggaga tgatcctgta tcacgggtgct ccataccaaa ataccaccaa 1920
gagagctggt ctcccaggag tgcagacaag cctgtgagca caggtaagac caccatttct 1980
gctcaaaggg acatgcctgg aaccctcagt acacaggaac agaggagcct ggaactggat 2040
atttcagtt tccatctgca ccccagagct gactctgtac cacagctctc cat 2093

```

<210> 55  
 <211> 282  
 <212> PRT  
 <213> Mus musculus

<400> 55

```

Gly Leu Ala Gly Leu Thr Gly Asn Ala Ile Val Phe Trp Leu Leu Leu
  1           5           10          15
Phe His Leu His Arg Asn Ala Phe Ser Ile Tyr Ile Leu Asn Leu Val
          20          25          30
Ile Ala Asp Phe Leu Phe Leu Leu Gly His Ile Ile Ala Ser Thr Met
        35          40          45

```

Gln	Leu	Leu	Lys	Val	Ser	Tyr	Leu	Asn	Ile	Ile	Phe	Leu	Tyr	Arg	Phe
50						55					60				
Tyr	Thr	Ile	Met	Met	Val	Leu	Tyr	Asn	Thr	Gly	Leu	Thr	Met	Leu	Ser
65					70					75					80
Ala	Ile	Asn	Thr	Lys	His	Cys	Leu	Ser	Val	Leu	Cys	Pro	Ile	Trp	Tyr
				85						90				95	
Arg	Ser	His	Cys	Thr	Lys	His	Thr	Ser	Thr	Val	Ile	Cys	Ala	Ala	Ile
			100					105					110		
Arg	Asp	Leu	Ser	Leu	Leu	Ile	Cys	Phe	Leu	Asn	Thr	Tyr	Phe	Cys	Gly
	115						120					125			
Leu	Leu	Asp	Thr	Lys	Tyr	Lys	Asn	Asp	Asn	Gly	Cys	Leu	Ala	Ser	Asn
	130					135					140				
Phe	Phe	Ile	Asn	Ala	Tyr	Leu	Met	Phe	Leu	Phe	Val	Val	Leu	Cys	Leu
145					150					155					160
Ser	Thr	Leu	Ala	Leu	Leu	Ala	Arg	Leu	Phe	Cys	Gly	Ala	Gly	Lys	Met
				165						170				175	
Lys	Phe	Thr	Arg	Leu	Phe	Val	Thr	Ile	Met	Leu	Thr	Val	Leu	Val	Phe
			180					185					190		
Leu	Leu	Cys	Gly	Leu	Pro	Ser	Ala	Ile	Tyr	Trp	Phe	Leu	Leu	Ile	Trp
	195						200					205			
Ile	Lys	Ile	Asp	Tyr	Gly	Val	Phe	Ala	Tyr	Asp	Val	Phe	Leu	Ala	Ser
	210					215					220				
Leu	Val	Leu	Ser	Ala	Val	Asn	Ser	Cys	Ala	Asn	Pro	Ile	Ile	Tyr	Phe
225					230					235					240
Phe	Val	Gly	Ser	Phe	Arg	His	Arg	Leu	Lys	His	Gln	Thr	Leu	Lys	Met
				245					250					255	
Val	Leu	Gln	Asn	Val	Leu	Gln	Asp	Thr	Pro	Glu	Thr	Ala	Glu	Asn	Met
			260					265					270		
Val	Glu	Met	Ser	Arg	Gly	Lys	Ala	Glu	Pro						
	275						280								

<210> 56  
 <211> 2401  
 <212> DNA  
 <213> Mus musculus

<400> 56  
 acttgctaac ttctgtaatt gatggccccc aaacaggaaa catcattata tctcacatga 60  
 ctataattaa tcaccactg tgttcatatc ttgactcaa aatctttccc ttgtagttaa 120  
 cttcagacga gcaactcgata gattatagta agatctgaga cttctcagag ttatgaccat 180  
 gttgggaatt tggttttccc aagctcagga atctgtccaa atggattgcc acaactacac 240  
 agagatggaa ggaaaggtag agaactttcc cagtgccatt acattctaca ggctacagga 300  
 gccttggctg gtcagaatgc aactttgggt ggcaactcaga acaatgttaa ttttcctttt 360  
 caattctctc ctatctcttt ccaactctgct catttgttct gttgcagcac atctgtgact 420  
 tccatgatat aaagtagttt ctttttctac tctactctct caattatctt ttttaattcta 480  
 ctatttctac tcacacatta aaatgtgtgt atgtgtgttt gtgttcatac gtgtgtgttg 540  
 aggctgattt tttccttatt tgctgtatat gaaactctac attctgttgt acacccagga 600  
 tgtcatgtgt taaattgtat ttcattgtct gctctctaaa acctacattc aggtacagaa 660  
 caatcacaga caagagagtc atgggttttg acctgggcta tttccatgrc aacaaaagtt 720  
 tcaaagaaac agcaagaaag cttcagagga agttagcacg acaatttgat taatgtcaag 780  
 aaggatgcag acatgatact ttctgattaa tgcttttact caggagatgg agaaaaacta 840  
 agttatggaa gagctgttga aggtgttggt agaccactga ggcatgccaa gtaggtcagc 900  
 tgaaaggaga gtggacagtg tggatcaagt cagcagggca gtgctcactc caaaactacc 960  
 tctgaaatcc aggagagggc tcttcatcat ggctctgctt tgctttttga catctccact 1020  
 atgttttcag gtgtctcagg aatgtcctgc agtgcactct ggataaccat tttgagggtc 1080  
 tgggtgctgca atcgatgcct gaaggagccc acgaagaagt aaatgatggg gttggcacag 1140



```

ctgttaagag cagtcaggac acttgatgcc ataaaaagac taaaatcaaa tacaataaaa 1200
acattcttaa tcttggataa caggaaccag tagatgccac agggcaacc gcagaggaga 1260
aaaacaaaaa tggtcagcat gatggtcacg tacaatctgg taagtttcat acgcccagcg 1320
ccacagaaca acctggccag cagagccagg ctggatagac agaggaccac aaacaaaaaac 1380
atcaggtatg cagcagtaaa gaagtttgat gccatacatc catagtcatt tacatatttg 1440
gtatctaaga aaacgcagaa atacttattc agaatgctga tcaacaggga caggaccag 1500
atcatagcac acgtgacagt tgatgtgtgt tctgggcggt ggcagcgata ccagatgggg 1560
cacagtacag acagacaccg ttcagtgccg atggcactga gtatgctcag gcctgcaatg 1620
tagagaacca gcatgatgct gaagaagcac ctgcgaaaga taatgttagg gtaggaaacc 1680
ttgagaagaa acagagtgga agctatgatg tgacagagga ggaagaggaa gtcagccaga 1740
gccaaattta ggatgtagac tgagaaggca ttcttgcgca agcgggaagcc caggagccag 1800
aacacaattg catttcctgt catcccaacc agtccgaaga tgatgatcat caagtgtggg 1860
atcaggggtg tgatgtcaat acttccaggg atggtttcgt ccattagatt tgttgtcgac 1920
ggtgcccattg atgaggcaga ggtgtttagg gccagaaaacc ctgcaccggt gctgctggga 1980
acacaaagaa gaaatgaggc tttccctatg aacacacctt ttgtttttct tttccctttt 2040
ttgtttttgt tgttgttttt aaaaattttt ttctattgga tattttcttt atttaaattt 2100
caaatgttat cccctttcct gcttttccct ctccaggaaa tccccatctc atcctccctc 2160
cttctgcttc tatgatggtg ttcctcaacc cacacacca cttccacctc tctgccctcg 2220
attcccatac actggagcat ctattgagcc ttcaaaggct ctaggacctt tttttccatt 2280
gatgcatgac acagcaattc tctcatacat atacagctgg agccatgttt acttwctttg 2340
ttgatggcctt attccatgga ggctggggcc agggggkggtg tctgatttgt tgatattggt 2400
t 2401

```

```

<210> 57
<211> 305
<212> PRT
<213> Mus musculus

```

```

<400> 57
Met Asp Glu Thr Ile Pro Gly Ser Ile Asp Ile Ser Thr Leu Ile Pro
 1           5           10           15
His Leu Met Ile Ile Ile Phe Gly Leu Val Gly Met Thr Gly Asn Ala
 20           25           30
Ile Val Phe Trp Leu Leu Gly Phe Arg Leu Arg Lys Asn Ala Phe Ser
 35           40           45
Val Tyr Ile Leu Asn Leu Ala Leu Ala Asp Phe Leu Phe Leu Leu Cys
 50           55           60
His Ile Ile Ala Ser Thr Leu Phe Leu Leu Lys Val Ser Tyr Pro Asn
 65           70           75           80
Ile Ile Phe Arg Arg Cys Phe Phe Ser Ile Met Leu Val Leu Tyr Ile
 85           90           95
Ala Gly Leu Ser Ile Leu Ser Ala Ile Gly Thr Glu Arg Cys Leu Ser
100           105           110
Val Leu Cys Pro Ile Trp Tyr Arg Cys His Arg Pro Glu His Thr Ser
115           120           125
Thr Val Thr Cys Ala Met Ile Trp Val Leu Ser Leu Leu Ile Ser Ile
130           135           140
Leu Asn Lys Tyr Phe Cys Val Phe Leu Asp Thr Lys Tyr Val Asn Asp
145           150           155           160
Tyr Gly Cys Met Ala Ser Asn Phe Phe Thr Ala Ala Tyr Leu Met Phe
165           170           175
Leu Phe Val Val Leu Cys Leu Ser Ser Leu Ala Leu Leu Ala Arg Leu
180           185           190
Phe Cys Gly Ala Gly Arg Met Lys Leu Thr Arg Leu Tyr Val Thr Ile
195           200           205
Met Leu Thr Ile Leu Val Phe Leu Leu Cys Gly Leu Pro Cys Gly Ile
210           215           220

```

Tyr	Trp	Phe	Leu	Leu	Ser	Lys	Ile	Lys	Asn	Val	Phe	Ile	Val	Phe	Asp
225					230				235						240
Phe	Ser	Leu	Phe	Met	Ala	Ser	Ser	Val	Leu	Thr	Ala	Leu	Asn	Ser	Cys
			245					250						255	
Ala	Asn	Pro	Ile	Ile	Tyr	Phe	Phe	Val	Gly	Ser	Phe	Arg	His	Arg	Leu
			260					265					270		
Gln	His	Gln	Thr	Leu	Lys	Met	Val	Ile	Gln	Ser	Ala	Leu	Gln	Asp	Ile
	275						280					285			
Pro	Glu	Thr	Pro	Glu	Asn	Ile	Val	Glu	Met	Ser	Lys	Ser	Lys	Ala	Glu
	290					295					300				
Pro															
305															

<210> 58  
 <211> 2110  
 <212> DNA  
 <213> Mus musculus

<400> 58  
 agaggtgtaa gtgggtatgt gggttgagga acacccttca tagaagcagg gggagggagg 60  
 atgagatggg gttttctggg aaggggcaaa agcaggaaag tggataacat ttgtaattta 120  
 aataaagaaa atatccaata caaaaaattht aaaaaaaaaa acacaaaacc acacaaaaaa 180  
 aagacaaaaa aaaagaaatt aaaagttgtg ttcatagtta atgcctcatt tttctttgtg 240  
 ttcccagcaa aaccagtgcg gggtttctgg ccctaaacac cttcagcctt ttcaatggca 300  
 cccaacgaca accaatacaa tggacgaaac catccctgga cgtattgaca tcgagaccct 360  
 gatcccaaac ttgatgatca tcatcttcgg actggtcggg ctgacaggaa atggcattgt 420  
 gttctggctc ctgggcttcc gcatgcacag gaatgccttc ttagtctaca tctaaaactt 480  
 ggccctggct gactttctct tcttctcttg tcacatcatt aattccacaa tgcttcttct 540  
 caaggttctc ccactcaact ggatccttgt tccattgctt taacaccatc agaacgggtc 600  
 tatacatcac aggcctgagc atgctcagcg ccatcagcac tgagcgctgc ctgtctgtcc 660  
 tgtgccccat ctggtatcga tgcctgcgcc gagaaaacac atcagctgtc atgtgtgctg 720  
 tgatctgggt cctgtccctg ttgatctgta ttctgaatag ttatttctgt tattactctg 780  
 gtcccaaaga tgtaaataac tctgtgtgtc tggatcgaa attcttcac agtacatacc 840  
 caatgttttt gttttagtgc ctctgtctgt ccaccctgac tctgtctggc aggttgttct 900  
 gtggtgctgg gaagaggaaa tttaccagat tattcgtgac catcatactg accatttttg 960  
 tttttcttct gtgtgggttg cccctgggct tctactgggt cctgttacac tgtattaagg 1020  
 gtagtttcag tgtactacat aatagacttt ttcaggcatc acttgtccta acttctgtta 1080  
 acagctgtgc caaccccatc atttacttct tctgtgggct cttcagggat cgggtgaagc 1140  
 accagaccct caaaatggta ctccagaatg cactgcagga cactcctgag acacctgaaa 1200  
 acaaggtgga gatgtcaaga agtaaagcag agccatgatg aagagactcg gccaggacct 1260  
 cagaggtagc tttggagtsa gwactgccct gctrcacttg accactgtcc actctctctt 1320  
 cagcttacts acttyggatg cctcagtggc ccaacaacac cttcaaawgc tctccactga 1380  
 cttagtattt atacctctcc caagtaatag cattaatcag aaagtatcat gtctgcatcc 1440  
 ttcttgacat taatccaatt ctcatactaa cttcatctga aactttcttg atgttctttt 1500  
 ggaacttttg ttgccatggt aatagccyag gtccagcacc atgactctct tgtctgtgat 1560  
 tkttctgtac ctgaatgtaa agtcaaagga gccaggagat gatcctgtgt cacagtgtct 1620  
 attacccaaa caccaccaac agagcttgtc tcccaggagt gcagacacgc ctgtgaacac 1680  
 aggtaagacc accacttctg cttaaaggga catgcctgga accctcagaa cacaggaaga 1740  
 aaagagcagc cttggacagg atacttccag tttccaactg caccocggag ctgaccctgt 1800  
 gccacagctc tccataccca aattcctccc agaaagaacy ggtcwaccaa gagtactgac 1860  
 acayaggctt gcaggaggga caagccacmg tcagagatag caaggaccag ctaacaccag 1920  
 agataaccag atggcaagag gcaagggcaa aaatataagc aatgggaacc aagactatth 1980  
 ggcacatca gaacctagtt ctctcaacat ggtgagccat ggctactcca acagacaaga 2040  
 aaagcatgac tctgatttaa tgtcacagat gatgatgatg atgatgatga tgatgatgat 2100  
 gatgatgatg 2110

<210> 59  
 <211> 305  
 <212> PRT  
 <213> Mus musculus

<400> 59

Met	Asp	Glu	Thr	Ile	Pro	Gly	Arg	Ile	Asp	Ile	Glu	Thr	Leu	Ile	Pro
1				5					10					15	
Asn	Leu	Met	Ile	Ile	Phe	Gly	Leu	Val	Gly	Leu	Thr	Gly	Asn	Gly	
			20				25					30			
Ile	Val	Phe	Trp	Leu	Leu	Gly	Phe	Arg	Met	His	Arg	Asn	Ala	Phe	Leu
		35					40					45			
Val	Tyr	Ile	Leu	Asn	Leu	Ala	Leu	Ala	Asp	Phe	Leu	Phe	Leu	Leu	Cys
	50					55					60				
His	Ile	Ile	Asn	Ser	Thr	Met	Leu	Leu	Leu	Lys	Val	Leu	Pro	Pro	Thr
65					70					75					80
Gly	Ser	Leu	Phe	His	Cys	Phe	Asn	Thr	Ile	Arg	Thr	Val	Leu	Tyr	Ile
				85						90				95	
Thr	Gly	Leu	Ser	Met	Leu	Ser	Ala	Ile	Ser	Thr	Glu	Arg	Cys	Leu	Ser
			100					105					110		
Val	Leu	Cys	Pro	Ile	Trp	Tyr	Arg	Cys	Arg	Arg	Arg	Glu	Asn	Thr	Ser
			115					120				125			
Ala	Val	Met	Cys	Ala	Val	Ile	Trp	Val	Leu	Ser	Leu	Leu	Ile	Cys	Ile
	130					135					140				
Leu	Asn	Ser	Tyr	Phe	Cys	Tyr	Tyr	Ser	Gly	Pro	Lys	Asp	Val	Asn	Asn
145					150					155					160
Ser	Val	Cys	Leu	Val	Ser	Lys	Phe	Phe	Ile	Ser	Thr	Tyr	Pro	Met	Phe
				165						170				175	
Leu	Phe	Val	Val	Leu	Cys	Leu	Ser	Thr	Leu	Thr	Leu	Leu	Ala	Arg	Leu
			180					185					190		
Phe	Cys	Gly	Ala	Gly	Lys	Arg	Lys	Phe	Thr	Arg	Leu	Phe	Val	Thr	Ile
		195					200					205			
Ile	Leu	Thr	Ile	Leu	Val	Phe	Leu	Leu	Cys	Gly	Leu	Pro	Leu	Gly	Phe
	210					215					220				
Tyr	Trp	Phe	Leu	Leu	His	Cys	Ile	Lys	Gly	Ser	Phe	Ser	Val	Leu	His
225					230					235					240
Asn	Arg	Leu	Phe	Gln	Ala	Ser	Leu	Val	Leu	Thr	Ser	Val	Asn	Ser	Cys
				245						250				255	
Ala	Asn	Pro	Ile	Ile	Tyr	Phe	Phe	Val	Gly	Ser	Phe	Arg	Asp	Arg	Val
			260					265					270		
Lys	His	Gln	Thr	Leu	Lys	Met	Val	Leu	Gln	Asn	Ala	Leu	Gln	Asp	Thr
	275						280					285			
Pro	Glu	Thr	Pro	Glu	Asn	Lys	Val	Glu	Met	Ser	Arg	Ser	Lys	Ala	Glu
	290					295					300				
Pro															
305															

<210> 60  
 <211> 740  
 <212> DNA  
 <213> Mus musculus

<400> 60

cagggtttct ggccctaaac acctcagcct cggcaatgac acccagcaca aacaattcaa 60  
 tggacgaaac catccctgga agtattggca ctgagaccct gattcaaaac ttgatgatca 120  
 tcatcttcgg actggtcggg ctgacaggaa atgccattgt gttctggctc ctgggcttcc 180

```

acttgacag gaatgccttt ttagtctaca tcctaaactt ggccctggct gatttcctct 240
tccttctctg tcacatcata gattccacag tgtttcttct caaggttccc ccaccaaac 300
ggatcttggg ccatgtcttt aacatcatca gaattgtact ctacatcaca ggcttgagca 360
tgctcagtgc catcagcatg gagcgctgcc tgtctgtcct gtgccccatc tggatatcgt 420
gccgccgccc agaaaacaca tcaactgtca tttgtgctgt gatctggatc ctgtccctgt 480
tgttctgcat tctgaatgga tatttctgtt atttctctgg tcccaactat gtaaataact 540
atgtgtgttt tgcacgcggac atctttatca gaacataccc aatgtttttg tttgtagtcc 600
tctgtctgtc cactctggct ctgctggcca gggtgttctg tgggtgctggg aagacgaaat 660
ttaccagatt attcgtcacc atcatactga ccgttttggg ttttcttctc tgtgggttgc 720
ccctgggctt cttctggttc

```

<210> 61

<211> 227

<212> PRT

<213> Mus musculus

<400> 61

```

Met Asp Glu Thr Ile Pro Gly Ser Ile Gly Thr Glu Thr Leu Ile Gln
 1          5          10          15
Asn Leu Met Ile Ile Ile Phe Gly Leu Val Gly Leu Thr Gly Asn Ala
          20          25          30
Ile Val Phe Trp Leu Leu Gly Phe His Leu His Arg Asn Ala Phe Leu
          35          40          45
Val Tyr Ile Leu Asn Leu Ala Leu Ala Asp Phe Leu Phe Leu Leu Cys
          50          55          60
His Ile Ile Asp Ser Thr Val Phe Leu Leu Lys Val Pro Pro Pro Asn
          65          70          75          80
Arg Ile Leu Val His Cys Phe Asn Ile Ile Arg Ile Val Leu Tyr Ile
          85          90          95
Thr Gly Leu Ser Met Leu Ser Ala Ile Ser Met Glu Arg Cys Leu Ser
          100          105          110
Val Leu Cys Pro Ile Trp Tyr Arg Cys Arg Arg Pro Glu Asn Thr Ser
          115          120          125
Thr Val Ile Cys Ala Val Ile Trp Ile Leu Ser Leu Leu Phe Cys Ile
          130          135          140
Leu Asn Gly Tyr Phe Cys Tyr Phe Ser Gly Pro Asn Tyr Val Asn Asp
          145          150          155          160
Tyr Val Cys Phe Ala Ser Asp Ile Phe Ile Arg Thr Tyr Pro Met Phe
          165          170          175
Leu Phe Val Val Leu Cys Leu Ser Thr Leu Ala Leu Leu Ala Arg Leu
          180          185          190
Phe Cys Gly Ala Gly Lys Thr Lys Phe Thr Arg Leu Phe Val Thr Ile
          195          200          205
Ile Leu Thr Val Leu Val Phe Leu Leu Cys Gly Leu Pro Leu Gly Phe
          210          215          220
Phe Trp Phe
225

```

<210> 62

<211> 1979

<212> DNA

<213> Mus musculus

<400> 62

```

aatacacaaa attaaaaaca acaacaacaa caacacgccc cacaaaaaaa gaaaacaaaa 60
acaaaaaaga aattaaagt tgtggtcata gtaaaggcct cacttcttct ttgtgttccc 120

```

```

agcaacacca gtgcagggtt tctggcccg aacacctcag cctcgacaat gacacccaca 180
acaacaaatc caatgaacga aaccatccct ggaagtattg acatcgagac cctgatacca 240
aacttgatga tcatcatctt cggactgggc gggctgacag gaaatgccat tgtgtttctgg 300
ctcctgggct tccgcatgca caggactgcc ttctcagtct acatcctaaa cttggccctg 360
gtcgacttcc tcttccttct ctgtcacatc ataaattcca cagtgttctt tctccaggtt 420
tccccacca acagtacctt ggtccattgc tttgacacca tcagaatggg tctctacatc 480
gcaggcctga gcatgctcag tgccattagc actgagcact gcctgtctgt cctgtgcccc 540
atctggtatc gctgccgccg cccagaacat acttcaactg tcatgtgtgc tgtgatctgg 600
gtcctgtccc tgttgatctg cattctaagt ggatatttct gtaatttttt tcttcacaaa 660
tatgtatatt actctgtgtg tcgggcattg gaattctgta tcggaacata ccccgatgtt 720
tttgttttgt agtctctgt ctgtccaccc tggctctgct ggtcagggtt tctgtgtgta 780
ctgggaaggc aaaattttacc agattattcg tgaccatcat gctgactgtt ttgggttttc 840
ttctctgtgt gttgcccctg tgtttcttct ggttcctggg agtctggatt aagcgtcctc 900
tcagtgtact aaatattaca ttttattttg catccattgt cctaactgtt gttaacagct 960
gtgccaaccc catcatttac ttcttcgtgg gtccttcag gcatcggttg aagcaacaga 1020
acctcaaaat ggttctccag aatgcactgc aggacactgc tgagacacct gaaaacgtgg 1080
cagagatttc aagaagcaaa gcagagccct gatgaggagc ctctgcctgg acctcagagg 1140
tggttttggc actgagcact gccctgctgc acttgccac tgtccactct cctctcagct 1200
tactgactgg caataactca gtggtacaac aacaccttca aaagctcacc actgacttag 1260
tatttctacc tatcccaagt aatagcatta atcagaaagt atcatgtctg catccttcta 1320
gacattattc aaattctcat ccaacttcat ctgaaacttt cttgctattt ctttgggaaca 1380
ttttttgcca tggtaatage ccagggtccag catcatgctt ctcttacctt tgattgttct 1440
gtacctgaat gtaaagaaaa aggagagaga agatgatcct ctgtcacagt gctcattacc 1500
caagcaccac taagagagct tgtctcccag gagtgcagac aaacctgtga gcacaggtaa 1560
gactaccact tctgcttaaa ggggcatgcc tggaaacccac aggacacagg taaagaggag 1620
cagcctgaga aaggatactt tccagtttcc aactgcaccc tggagctgac cctgtgccac 1680
agctctcccc accttaattc ttcccagaaa gaactggtct mccaggaagt actgacacat 1740
agccttgacg gaggtacaag acactgtcac agatagcaag accagctaac accagagata 1800
accagatggc aagaggcaag ggcaaaaaca taagcaatgg gaaccaaggc tacttggcat 1860
catcagaacc tagttctctc aacaaagtga gccttgata ctccaacaca caagaaaagt 1920
atgactgtga ttaaaagtca ccgatgatga tgatgatgat gatgatgatg atgatgatg 1979

```

<210> 63

<211> 305

<212> PRT

<213> Mus musculus

<400> 63

```

Met Asn Glu Thr Ile Pro Gly Ser Ile Asp Ile Glu Thr Leu Ile Pro
 1           5           10          15
Asn Leu Met Ile Ile Ile Phe Gly Leu Val Gly Leu Thr Gly Asn Ala
 20          25          30
Ile Val Phe Trp Leu Leu Gly Phe Arg Met His Arg Thr Ala Phe Ser
 35          40          45
Val Tyr Ile Leu Asn Leu Ala Leu Ala Asp Phe Leu Phe Leu Leu Cys
 50          55          60
His Ile Ile Asn Ser Thr Val Leu Leu Leu Gln Val Ser Pro Pro Asn
 65          70          75          80
Ser Thr Leu Val His Cys Phe Asp Thr Ile Arg Met Val Leu Tyr Ile
 85          90          95
Ala Gly Leu Ser Met Leu Ser Ala Ile Ser Thr Glu His Cys Leu Ser
100         105         110
Val Leu Cys Pro Ile Trp Tyr Arg Cys Arg Arg Pro Glu His Thr Ser
115         120         125
Thr Val Met Cys Ala Val Ile Trp Val Leu Ser Leu Leu Ile Cys Ile
130         135         140
Leu Ser Gly Tyr Phe Cys Asn Phe Phe Leu His Lys Tyr Val Tyr Tyr

```

145		150		155		160									
Ser	Val	Cys	Arg	Ala	Leu	Glu	Phe	Cys	Ile	Gly	Thr	Tyr	Pro	Met	Phe
				165					170					175	
Leu	Phe	Val	Val	Leu	Cys	Leu	Ser	Thr	Leu	Ala	Leu	Leu	Val	Arg	Leu
			180					185					190		
Phe	Cys	Gly	Thr	Gly	Lys	Ala	Lys	Phe	Thr	Arg	Leu	Phe	Val	Thr	Ile
		195					200					205			
Met	Leu	Thr	Val	Leu	Val	Phe	Leu	Leu	Cys	Gly	Leu	Pro	Leu	Cys	Phe
	210					215					220				
Phe	Trp	Phe	Leu	Val	Val	Trp	Ile	Lys	Arg	Pro	Leu	Ser	Val	Leu	Asn
225					230					235				240	
Ile	Thr	Phe	Tyr	Phe	Ala	Ser	Ile	Val	Leu	Thr	Val	Val	Asn	Ser	Cys
			245					250					255		
Ala	Asn	Pro	Ile	Ile	Tyr	Phe	Phe	Val	Gly	Ser	Phe	Arg	His	Arg	Leu
			260					265					270		
Lys	Gln	Gln	Asn	Leu	Lys	Met	Val	Leu	Gln	Asn	Ala	Leu	Gln	Asp	Thr
		275					280				285				
Ala	Glu	Thr	Pro	Glu	Asn	Val	Ala	Glu	Ile	Ser	Arg	Ser	Lys	Ala	Glu
	290					295					300				
Pro															
305															

<210> 64  
 <211> 1485  
 <212> DNA  
 <213> Mus musculus

<400> 64  
 aacaacacaa aaccctgaaa aaaaaaaga aattaaagt tttgttcata gtaaaggcct 60  
 catttcttct ttgtgttcac agcaacatca gtgcacggtt aatggcaata aacacctcag 120  
 cctcggaat ggcacccacg acaacaaatc caaagggag caaacaatcc ctgggaagta 180  
 ttgacatcga gaccctgata tcaaacttga tgatcatcat tttcgggctg gtagggctgc 240  
 caggaaatgc cattgtgttc tggtcctggt gcttctgctt gcacaggaat gccttcttag 300  
 tctacatcct aaacttggcc ctggctgacg tctcttctt tctctgtcac atcataaatt 360  
 ccacagtgtc tcttctcaag gttccccac ccaacggtaa tatttgtcca ttgcttcaac 420  
 atcatcagaa ttgttctcta catcacaggc ctgagcatgc tcagtgccat catcactgag 480  
 cgctgcctgt ctatcctgtg ccccatctgg tatcgctgcc accgccaga acacacatca 540  
 actgccatgt gtgctgtgat ctgggtcctg tctctgttga tctgcattct tggaagaata 600  
 tttctgtaat ttttctcttc acaaatatgt aaattactct gtgtgtctgg cattggactc 660  
 ctttatcgga acatacccaa tgtttttgct tgtagtcctc tgtctgtcca ccatggctct 720  
 gctggccagg ttgttctgtg gttctgggaa gacgaaattt accagattat ttgtgacat 780  
 catgcttacc gttttgggtt ttcttctctg ctgggtttgc ccctgggctt cttctgggtc 840  
 ctgttactct ggattaagggt tgcttacagt gtactagggt atagatttta ttttgcata 900  
 attgtcctaa ctgctgttaa cagctgtgcc aaccccatca tttacttctt catgggctca 960  
 ttcaggcaac gattgcagca caagaccctc aaaatcggtc tccagagtgc actgcacgac 1020  
 actcctgaga cacctgaaaa catggtggag atgtcaagaa gcaaagcaga gccataatga 1080  
 agagcctctg cctggacctc agaggtggat ttggagtgg aactgcccta cgcttgacca 1140  
 ctgtccactc tctctcagc ttactgactt tggatgccta agtgggtcaa caacaacttc 1200  
 aaaatctctc cactgactta gtatttatac ctctcccaag taatagcatt aatcagaaag 1260  
 tatcatgtct gcaccttctt tgacattaat ccaattctca tactaacttc atctgaaact 1320  
 ttcttctgtt ttctttggaa cttttgttgc catagtaata gccagatcc agcaccatga 1380  
 ctacttgtc tgtgattatt ctgtacctga atgtaaagaa aaaggcagga gatgatcctg 1440  
 tatcacagtg ctcatcacac aaacaccacc aagaaagctc gtctc 1485

<210> 65  
 <211> 300

<212> PRT  
<213> Mus musculus

<400> 65

Gly	Ser	Ile	Asp	Ile	Glu	Thr	Leu	Ile	Ser	Asn	Leu	Met	Ile	Ile	Ile	
1				5					10					15		
Phe	Gly	Leu	Val	Gly	Leu	Pro	Gly	Asn	Ala	Ile	Val	Phe	Trp	Leu	Leu	
			20					25					30			
Gly	Phe	Cys	Leu	His	Arg	Asn	Ala	Phe	Leu	Val	Tyr	Ile	Leu	Asn	Leu	
		35					40					45				
Ala	Leu	Ala	Asp	Val	Leu	Phe	Leu	Leu	Cys	His	Ile	Ile	Asn	Ser	Thr	
	50					55					60					
Val	Leu	Leu	Leu	Lys	Val	Pro	His	Pro	Thr	Val	Ile	Leu	Val	His	Cys	
65					70					75					80	
Phe	Asn	Ile	Ile	Arg	Ile	Val	Leu	Tyr	Ile	Thr	Gly	Leu	Ser	Met	Leu	
				85					90					95		
Ser	Ala	Ile	Ile	Thr	Glu	Arg	Cys	Leu	Ser	Ile	Leu	Cys	Pro	Ile	Trp	
			100					105					110			
Tyr	Arg	Cys	His	Arg	Pro	Glu	His	Thr	Ser	Thr	Ala	Met	Cys	Ala	Val	
		115				120						125				
Ile	Trp	Val	Leu	Ser	Leu	Leu	Ile	Cys	Ile	Leu	Gly	Lys	Tyr	Phe	Cys	
	130					135					140					
Asn	Phe	Phe	Leu	His	Lys	Tyr	Val	Asn	Tyr	Ser	Val	Cys	Leu	Ala	Leu	
145					150					155					160	
Asp	Ser	Phe	Ile	Gly	Thr	Tyr	Pro	Met	Phe	Leu	Leu	Val	Val	Leu	Cys	
				165					170					175		
Leu	Ser	Thr	Met	Ala	Leu	Leu	Ala	Arg	Leu	Phe	Cys	Gly	Ser	Gly	Lys	
			180					185					190			
Thr	Lys	Phe	Thr	Arg	Leu	Phe	Val	Thr	Ile	Met	Leu	Thr	Val	Leu	Val	
	195					200						205				
Phe	Leu	Leu	Cys	Leu	Gly	Leu	Pro	Leu	Gly	Phe	Phe	Trp	Phe	Leu	Leu	
	210					215					220					
Leu	Trp	Ile	Lys	Gly	Ala	Tyr	Ser	Val	Leu	Gly	Tyr	Arg	Phe	Tyr	Phe	
225					230					235					240	
Ala	Ser	Ile	Val	Leu	Thr	Ala	Val	Asn	Ser	Cys	Ala	Asn	Pro	Ile	Ile	
				245					250					255		
Tyr	Phe	Phe	Met	Gly	Ser	Phe	Arg	Gln	Arg	Leu	Gln	His	Lys	Thr	Leu	
			260					265					270			
Lys	Ile	Val	Leu	Gln	Ser	Ala	Leu	His	Asp	Thr	Pro	Glu	Thr	Pro	Glu	
		275					280					285				
Asn	Met	Val	Glu	Met	Ser	Arg	Ser	Lys	Ala	Glu	Pro					
	290					295					300					

<210> 66  
<211> 1518  
<212> DNA  
<213> Mus musculus

<400> 66

aacaacaaaa	aaaaaaaaaca	gaaaaagaaa	ttaaaagttg	tgtccatagt	gaaggcctca	60
ttttctcttt	gtgtttccag	caacaccagt	gcagggtttc	tggacctaaa	cacctcagcc	120
tcggcaatag	caccacacac	aaccaaacca	atggacgaaa	ccatccctgg	aagtattgac	180
actgagaccc	tgtatccaac	acttgatgat	catcatcttc	ggactggtcg	ggctgacagg	240
aaatggcatt	gtgttggtgc	tcctgggctt	ccacttgcaa	aggaatgcct	ttttagtcta	300
catcctaaac	ttggccctag	ctgacttctc	ctaccttctc	tgtcacatca	tagattccac	360
aatgcttctt	ctcaagggtc	ccccacccaa	ctggatcttg	gtccattgct	ttaggaccat	420

```

ccaaattttt ctctacatca caggcctgag catgctcagt gccatcagca cagagcgctg 480
cctgtctgtc ctgtgcccc tctggtatcg ctgccgccgc ccagaaaaca catcaactgt 540
gatgtgtgct gtgatctggg tctgtcctt gttgatctgc attctgcatg gatatttttc 600
tggtatttct ctgggtctcag ttatgaaaat tactctgtgt gttttgcac agcgatcatt 660
atcagttcat acccaacgtt tttgcttgta gtcctctgtc tgtccaccct ggctctgctg 720
gccaggttgt tctgtggtgc tgggaagagg aaattttcca gattattcgt gaccatcata 780
cttaccgttt tggtttttct tctctgtggg ttgccctggg gagccctctg gttcccata 840
ctctggattc aggggtggtt ctggaaaaga ctttttcagg catcaattgt cctatcttct 900
gttaacagct gtgccaaccc catcatttat ttcttcgtgg gtcattcag gcatcgattg 960
aagcaccaga cccttaaaat gggtctccag aatgcactgc aggacactcc tgagacaact 1020
gaaaacatgg tggagatgtc aagaagtaaa gcagagccat gatgaagagc ctctgcctgg 1080
acctcagagg tggatttgga gtgagcactg ccctgctgca cttgaccact gtccactctc 1140
ctctcagctt actgacttgg aatgcctcag tggtcacaaa acaccttcaa aagctctcca 1200
ctgactaaagt atttctacct atcccaagta atagcattaa tcagaaagta ccatgtctgc 1260
atccttcttg acattaatca aattctotta ctatcttcat ctgaaacttt cttgttggtt 1320
ctttggaact tttgttgcca tggtaaatagc ccaagtccag caccatgact ttcttatctg 1380
tgattgttct atacctgaat gtaaaggcaa aggagccagg agatgatcct gtgttacagt 1440
gtcattacc caaacaccac caagagagct tgtctcccag gagtgcagac acgcctgtga 1500
acaaggtaa gaccacca 1518

```

<210> 67

<211> 303

<212> PRT

<213> Mus musculus

<400> 67

```

Met Asp Glu Thr Ile Pro Gly Ser Ile Asp Thr Glu Thr Leu Tyr Pro
1      5      10      15
Asn Leu Met Ile Ile Phe Gly Leu Val Gly Leu Thr Gly Asn Gly
20     25     30
Ile Val Leu Trp Leu Leu Gly Phe His Leu Gln Arg Asn Ala Phe Leu
35     40     45
Val Tyr Ile Leu Asn Leu Ala Leu Ala Asp Phe Leu Tyr Leu Leu Cys
50     55     60
His Ile Ile Asp Ser Thr Met Leu Leu Leu Lys Val Pro Pro Pro Asn
65     70     75     80
Trp Ile Leu Val His Cys Phe Arg Thr Ile Gln Ile Phe Leu Tyr Ile
85     90     95
Thr Gly Leu Ser Met Leu Ser Ala Ile Ser Thr Glu Arg Cys Leu Ser
100    105    110
Val Leu Cys Pro Ile Trp Tyr Arg Cys Arg Arg Pro Glu Asn Thr Ser
115    120    125
Thr Val Met Cys Ala Val Ile Trp Val Leu Ser Leu Leu Ile Cys Ile
130    135    140
Leu His Gly Tyr Phe Cys Cys Tyr Phe Ser Gly Leu Ser Tyr Glu Asn
145    150    155    160
Tyr Ser Val Cys Phe Ala Ser Ala Ile Ile Ser Ser Tyr Pro Thr
165    170    175
Phe Leu Leu Val Val Leu Cys Leu Ser Thr Leu Ala Leu Leu Ala Arg
180    185    190
Leu Phe Cys Gly Ala Gly Lys Arg Lys Phe Ser Arg Leu Phe Val Thr
195    200    205
Ile Ile Leu Thr Val Leu Val Phe Leu Leu Cys Gly Leu Pro Trp Gly
210    215    220
Ala Leu Trp Phe Pro Leu Leu Trp Ile Gln Gly Gly Phe Trp Lys Arg
225    230    235    240
Leu Phe Gln Ala Ser Ile Val Leu Ser Ser Val Asn Ser Cys Ala Asn

```



				245						250					255				
Pro	Ile	Ile	Tyr	Phe	Phe	Val	Gly	Ser	Phe	Arg	His	Arg	Leu	Lys	His				
			260					265					270						
Gln	Thr	Leu	Lys	Met	Val	Leu	Gln	Asn	Ala	Leu	Gln	Asp	Thr	Pro	Glu				
		275					280					285							
Thr	Thr	Glu	Asn	Met	Val	Glu	Met	Ser	Arg	Ser	Lys	Ala	Glu	Pro					
	290					295					300								

<210> 68  
 <211> 1500  
 <212> DNA  
 <213> Mus musculus

<400> 68  
 cattttcggga ctggtcgggc tgacaggaaa taccattgtg ttctggctcc tgggcttctg 60  
 cttgcacagg aatgcctttt tagtctacat cctaaacttg gccctggctg acttctctct 120  
 ccttctctgc cacatcataa attccacagt acttcttctc aaggttcccc tacccaactg 180  
 gatcttggtc cattgcttta acaccatcag aattgttctt tacatcacag gcctgaacat 240  
 gctcagtgcc atcaacatgg agcactgcct gtctgtcctg tgcccatct ggtatcactg 300  
 ctgccgcccc gaacacacat caactgtcat gtgtgctgtg atctgggtcc tgtccctgtt 360  
 gatctgcatt ctgaatgaat- atttctgtga tttctttggg accaaattgg taaattacta 420  
 tgttgtctg gcacgaaact tctttatggg agcatacctg ttgtttttgt ttgtagtcc 480  
 ctgtctgtcc accctggctc tgctggccag gttgttctgt ggtgctggga atacgaaatt 540  
 taccagattt cacatgacca tcttgctgac ccctttgttc tttctcctct gcgggttgcc 600  
 ctttgccatc taatgcttcc tgttattcaa gattaaggat gatttccatg tattttatat 660  
 taacctttt ctagcattag aagtcctgac ttctattaac agctgtgaca accccatcat 720  
 ctatttcttc ctggactcct tcagacatca ggagaagcac cagaccctca aaatggttct 780  
 ccagagtga ctgcaggata ctcytgagac acctgaaaac atggcagaga tgtcaagaag 840  
 caaagcagag ccgtgatgaa gagcctctgc ctggatgtca gaggtggctt tggagtgagc 900  
 actgccctgc tgcaactgac cactgtcaac tctactctca gcttactgac ttgtcatgcc 960  
 tcagtgggtc aacaacacct tcaaaagctc tccactgact tagtatttt acctctccca 1020  
 agtagtagca ttaatcagaa agtatcatgt ctgcacctt cttgacatta ttcaaattct 1080  
 catctaactt catctgaaac tttctcccta tttctttgga acttttggtg ccatggkaat 1140  
 agcccagatc cagcaccatg actctcttct ctgtgattgt tctgaacctg aatgtaaaga 1200  
 caaaggagag agaagatgat cctgtgtcac agtgctcatt acccaagcac cgccaagaga 1260  
 tcttgtctcc caggagtga gacaagcctg tgcgcactgg taagaccacc acttttgctt 1320  
 aaagggacat gcttggaaact ttcaagacag agtaacagag gagcaccctg gaacaggata 1380  
 cttccagttt ccaactgcac accggagctg accctatgca acagctctcc atacccaact 1440  
 tcttcccaca aagaactggt gctaccagga gtactgacac acagggtttc aggaaggaca 1500

<210> 69  
 <211> 283  
 <212> PRT  
 <213> Mus musculus

<400> 69  
 Ile Phe Gly Leu Val Gly Leu Thr Gly Asn Thr Ile Val Phe Trp Leu  
 1 5 10 15  
 Leu Gly Phe Cys Leu His Arg Asn Ala Phe Leu Val Tyr Ile Leu Asn  
 20 25 30  
 Leu Ala Leu Ala Asp Phe Leu Phe Leu Leu Cys His Ile Ile Asn Ser  
 35 40 45  
 Thr Val Leu Leu Leu Lys Val Pro Leu Pro Asn Trp Ile Leu Phe His  
 50 55 60  
 Cys Phe Asn Thr Ile Arg Ile Val Leu Tyr Ile Thr Gly Leu Asn Met

65		70		75		80
Leu Ser Ala Ile Asn Met Glu His Cys	Leu Ser Val Leu Cys Pro Ile					
	85	90	95			
Trp Tyr His Cys Cys Arg Pro Glu His Thr Ser Thr Val Met Cys Ala						
	100	105	110			
Val Ile Trp Val Leu Ser Leu Leu Ile Cys Ile Leu Asn Glu Tyr Phe						
	115	120	125			
Cys Asp Phe Phe Gly Thr Lys Leu Val Asn Tyr Tyr Val Cys Leu Ala						
	130	135	140			
Ser Asn Phe Phe Met Gly Ala Tyr Leu Leu Phe Leu Phe Val Val Leu						
	145	150	155			160
Cys Leu Ser Thr Leu Ala Leu Leu Ala Arg Leu Phe Cys Gly Ala Gly						
	165	170	175			
Asn Thr Lys Phe Thr Arg Phe His Met Thr Ile Leu Leu Thr Pro Leu						
	180	185	190			
Phe Phe Leu Leu Cys Gly Leu Pro Phe Ala Ile Cys Phe Leu Leu Phe						
	195	200	205			
Lys Ile Lys Asp Asp Phe His Val Phe Tyr Ile Asn Leu Phe Leu Ala						
	210	215	220			
Leu Glu Val Leu Thr Ser Ile Asn Ser Cys Asp Asn Pro Ile Ile Tyr						
	225	230	235			240
Phe Phe Leu Asp Ser Phe Arg His Gln Glu Lys His Gln Thr Leu Lys						
	245	250	255			
Met Val Leu Gln Ser Ala Leu Gln Asp Thr Pro Glu Thr Pro Glu Asn						
	260	265	270			
Met Ala Glu Met Ser Arg Ser Lys Ala Glu Pro						
	275	280				

<210> 70  
 <211> 2504  
 <212> DNA  
 <213> Mus musculus

<400> 70  
 gtgtgtgcct tgggttttat tgcttatggt tttgtccttg catcttgcca tctgggttatc 60  
 tctgggtatta gctgggtcttg atgtctctga ttgtccttgt ccctcctgca agcctgtgtg 120  
 tcatttctcc tgggagacca gttatttcta gaagaaattt aggtatgggg agttgtggca 180  
 cagggtcagc ccagggtgc agatgaaaac tggaaggatc ctgtcccagg tgcgtcctct 240  
 atttctgtgt cctgcgggtt ctgggcatgt ccctttgagc agaagtgttg gtcttacctg 300  
 tgctcacagg cttgtctgca ctgtggcaca agatcatctc ctggctcctt tgtctttaca 360  
 ttcaggtaga gamcaatcmc cagacaagag agtcatgctt ctggacttg gctatttcca 420  
 tggcaacaaa agttccaaag aaacamcaag aaagggttcag aggaagttag catgagaatt 480  
 tgattaatgt cataaaggat gcagacatga tactttctga ttaatgatata tactcgagag 540  
 aggtagaaaa tctaagtcag tggagagctt ttgaagatgt tgggtggacca ctgaggcatg 600  
 tcaagtcagt cagcggagag cagagtggac agtgataaag tgcagcaggg cattcttcac 660  
 tccaaagcca cctctgaggt ccaggcagag gctcttcac atggctctgc tttacttctt 720  
 gacatcccca ccatgttttc aggtgtctca ggagtgtcct acattgtcct ctggagaacc 780  
 attttcagtg tctgggtgctg caaccgaagc ctgaaggagc ccgtgaagaa gtaaatgatg 840  
 gagttggcac aactgttaat agcagtcatg acaagtgatt ccagataaaa tacaagagta 900  
 aatacatgaa aagcatcctt aatcttgcac aacagaaacc agtagatgcc aaagttcaat 960  
 ctgcaaagga gaaaaccaga gcagtcagca ggatgggtcac atactatctg gtaagcttca 1020  
 tttgcccac atcacagaac aacctggcca gcagagccag gctggaaaga cagagatcca 1080  
 caaacaac atcaggtatg cagaagtaaa gaagttcaat gccagacacc cattgtcatt 1140  
 ttcataattg ctatgtaaga aacctcagaa ataactattc agaatgcaga tcaacaggga 1200  
 cagtaccag atcacagcac acatggcagc tgatgtatgt tctgggtggt gacagcaatc 1260  
 ccagatgggc acagtacaga caggccgtgc tcagtgtcga tggcagtgag catgctcagg 1320

```

cctgcgatgt agagaaccat catgatgatg taaaagcaca agataaagat aatggggtag 1380
aaaacattga gaagaagcag tatggaatct atgggtgtgac ctaggaggaa gaagaagtca 1440
gccagggtcca agtttaggat gtagaccttg aaagcattcc tgcgcaaggg gaagtgcagg 1500
atccagaaga caatggaatt tcctgtcagc ccaaccagtc cgaagatgat gggtatcaag 1560
tttgggatca gaatcctgat gttgatacct ccagggatgg ttttgtccat tggatttgct 1620
gttgtgggtg ctgttggtga ggctgatgtg tttaggggcca gaaactctgc accagtgtctg 1680
ctgggaacac aaagaaaaaa tgaggcccttc cctatgaact caccttttgt tttccttttt 1740
gttggatttt taatttcttc tattgcatat tttaaattat ttgctttcct gtgtccccc 1800
ccctcccttt cctgaaaacc cctatcccac cctccctcta ccctgcttac tattgaggat 1860
attcctccac ccactcccac ctctctgccc tctattgccc tacactgggg caactatcaa 1920
gccttcatag atccatagaa ctcttctccc atttattcat gacaggggcca tcctctgcta 1980
catatgcagc tggagccatg tgtacttctt tgctgatggc ttgtcccctg ggtgctgggg 2040
gattgggtact ggttggttga tattgttttt cttacctatg ggcttgcaaa ccccttcaac 2100
tcccttagtc ctttctctaa ttcttctatt agggaccctg ttctcagtct aatggctgga 2160
tgctaacatc tgcctctgta tttgtaaggc tctgacagtg cctctcaaga aacagccata 2220
ttaggtcctt gtcagcatgc acttcttgca atccacaata gtgtctggtt ttggtaactg 2280
tatatggtac gaatccccag gtgggacagt gtctgtgtga tctttccttt agtctttgct 2340
ctagacttta tctccataaa aagtattttg ttctccttct aaaaagcact gaagcaccca 2400
ctctttggtc tttcttcttc atggacttca tgtggtctgt gaattttaac ctggttattt 2460
ttcagttttt gagctcctat tcacttatca gtgagtgcac acca 2504

```

```

<210> 71
<211> 301
<212> PRT
<213> Mus musculus

```

```

<400> 71
Met Asp Lys Thr Ile Pro Gly Gly Ile Asn Ile Arg Ile Leu Ile Pro
1      5      10      15
Asn Leu Ile Thr Ile Ile Phe Gly Leu Val Gly Leu Thr Gly Asn Ser
20     25     30
Ile Val Phe Trp Ile Leu His Phe Pro Leu Arg Arg Asn Ala Phe Lys
35     40     45
Val Tyr Ile Leu Asn Leu Asp Leu Ala Asp Phe Phe Phe Leu Leu Gly
50     55     60
His Thr Ile Asp Ser Ile Leu Leu Leu Leu Asn Val Phe Tyr Pro Ile
65     70     75     80
Ile Phe Ile Leu Cys Phe Tyr Ile Ile Met Met Val Leu Tyr Ile Ala
85     90     95
Gly Leu Ser Met Leu Thr Ala Ile Ser Thr Glu His Gly Leu Ser Val
100    105    110
Leu Cys Pro Ile Trp Asp Cys Cys His His Pro Glu His Thr Ser Ala
115    120    125
Ala Met Cys Ala Val Ile Trp Val Leu Ser Leu Leu Ile Cys Ile Leu
130    135    140
Asn Ser Tyr Phe Gly Phe Leu His Ser Lys Tyr Glu Asn Asp Asn Gly
145    150    155    160
Cys Leu Ala Leu Asn Phe Phe Thr Ser Ala Tyr Leu Met Phe Leu Phe
165    170    175
Val Asp Leu Cys Leu Ser Ser Leu Ala Leu Leu Ala Arg Leu Phe Cys
180    185    190
Asp Val Gly Gln Met Lys Leu Thr Arg Tyr Val Thr Ile Leu Leu Thr
195    200    205
Ala Leu Val Phe Leu Leu Cys Arg Leu Asn Phe Gly Ile Tyr Trp Phe
210    215    220
Leu Leu Cys Lys Ile Lys Asp Ala Phe His Val Phe Thr Leu Val Phe
225    230    235    240

```

Tyr	Leu	Glu	Ser	Leu	Val	Met	Thr	Ala	Ile	Asn	Ser	Cys	Ala	Asn	Ser
				245					250					255	
Ile	Ile	Tyr	Phe	Phe	Thr	Gly	Ser	Phe	Arg	Leu	Arg	Leu	Gln	His	Gln
			260					265					270		
Thr	Leu	Lys	Met	Val	Leu	Gln	Arg	Thr	Met	Asp	Thr	Pro	Glu	Thr	Pro
		275					280					285			
Glu	Asn	Met	Val	Gly	Met	Ser	Arg	Ser	Lys	Ala	Glu	Pro			
	290					295					300				

<210> 72  
 <211> 2758  
 <212> DNA  
 <213> Mus musculus

<400> 72

aatttttgtg	tttcctcttt	aagggtcttct	accaattttat	ctgtgtttctc	ctgtattatt	60
ttaagggagt	tatttatgtc	tttcttaatg	tcctctatca	tcacatcat	catccttata	120
attttcatca	tcacaccag	aggtgacttt	aaatcagagt	catgcttttc	tggtgtgttg	180
gagtatccag	ggctcaccat	gttgagagaa	ctaggttctg	atgatgccaa	gtagccttgg	240
ttcccattgc	ttatgttttt	gcccttgccct	cttgccatct	gattatctct	ggagtaagct	300
ggtcttgctc	tctctaactg	tggcttgctc	ctcctgcaag	cctatgtgtc	agtactcctg	360
gtagaccagt	tctttctggg	agaaatttgg	gtatggagag	ctgtggcaca	gggtcagctc	420
cggggtacag	ttggaaactg	gaagtatcct	gtcccagggt	gctcctctgt	tcctgtgtcc	480
tgaggattcc	aggcatgtcc	atttaagcag	aagtgggtgt	cttacctatg	ttcacaggca	540
tatctgcact	cctgggagac	aagctttctt	ggtgggtgtt	gggtaatgag	cactgggaca	600
caggaacatc	tcctggctcc	tttgtcttta	catttgggta	cagaacaatc	acagacaaga	660
gagtaattgt	gctgaacctc	agctattacc	atggcaacaa	aagttccaaa	gaaacagcaa	720
gaatgtttca	gatgaagtta	gtatgagaat	tggattaatg	tcaggaagga	tcagagacatg	780
gtactttctg	attaatgcta	ttacttggga	gaggtagaaa	tactaagtca	gtggagagct	840
tttgaaggtg	ttgttggaac	actgaggaat	gccaagtcag	taagctgaga	ggaaagtggg	900
cagtgggtcta	gtgcagcatg	gcagtgtctc	ctccaaagcc	acctctgagg	tccaggcaga	960
ggctcttcat	catggctctg	ctttgcttct	tgatatatcc	accatgtttt	cagggtgtctc	1020
aggagtgtcc	tgcaatgcac	tctggagaac	cattttgagg	gtcttgtgct	tcaacggatg	1080
cctgtatgag	cccacgaaga	agtaaagtat	ggggttggca	cagctgttaa	cagcagttag	1140
gacaagtgat	gccagaaaga	atctatagtc	tagtatactg	aaaccaccct	caatccaggg	1200
taacaggaac	cagaggaagc	ccaggggcaa	cccacagaga	agaaaaacca	aatgggtcac	1260
catgatggtc	atgaataatc	tggtaaattt	cttctttcca	gcaccacaga	acaacctggc	1320
cagcagagtc	agggtagaaa	aacagaggac	tacaaacaaa	aaaatagggt	atattctgat	1380
gaagaattct	gatgcctgac	acacagagtt	aatttcatat	ttgggaccaa	ataaatcaca	1440
gaaatatctg	ttcagaaggc	agatcaacag	gggacaggac	ccagatcacg	acacacatga	1500
tggttgatgt	gtgttmtggg	cgggtggcagc	gataccagat	ggggcacagg	acagacaggc	1560
agcgmtcagt	gctgatggca	ctgagcatgc	tcaggcctgt	gatgtagaga	accgttctga	1620
tgggtgtcaa	gcaatggatg	aagatactgt	tgtgtgggcg	aaccttgaaa	agatgcattg	1680
tggaatttat	gatgtgacag	agaagaaaga	aggaagtcag	ccagggccaa	gttttaggatg	1740
tagactaaga	tggcattcct	gtgaaatcgg	aagcccagga	tccagaatac	aatggcattt	1800
ccagtcagcc	caaccagtcc	gaagatgatg	atcatcaagt	gtgggataag	ggtctcgatt	1860
tcaatacttc	caagatgggt	ttcatccatt	ggatttgttg	tcgtgggtgc	cattgctgag	1920
gctgaggtgt	ttagggccag	aaaccttgca	ctggatttgc	tggaaacaca	aacaagaaat	1980
gaggccttca	ctgtgaacac	aacttttaat	ttctttcttt	ttgtttgttt	gtttgtttgt	2040
ttgtgggggt	ttgttttttt	ttttaatttt	tttttgtatt	agatattttc	ttcatttaat	2100
tttcaaagt	tatccctttt	cctggctttc	ccccctccca	gaaacccctt	tctgatcctc	2160
ccacctcttt	caaccacac	acccacttcc	acctctctgc	ccctgattcc	cttacactgg	2220
agcatctata	gaaccttcat	aggttcaagg	acctcttctt	ccatccatgc	aagacatggc	2280
catcatctgc	tacatatgca	tctggagcca	cacgtactcc	tttgttgatg	gcttagtccc	2340
tgggagttca	gggggtgggg	gtgggggtgg	gggcagtggt	ctcttggttc	atactgttgc	2400
tcttcttatg	gagcttcaaa	ccacttcaac	tccttcaggc	ctttctctaa	ctcctctatt	2460

agggaccctg tgctcagttt aattgtttggc tgctaacatc agactctgca tttgaaaggc 2520  
 cctgacatgg cctcttagga aacagctata tcaggttcct gtcagcattc actccttgac 2580  
 atccacaata gtgtctgcat ttggtaactg tgtatgagat gaatccccag gtggaacatt 2640  
 ctctgggtga cttttccttt agtgtctgtt ctacacatta tctccatatt tgctcttgtg 2700  
 agtattttgt tcttcttcta agaagggtctg aaacacccac actttcgtct tccttgtt 2758

<210> 73  
 <211> 304  
 <212> PRT  
 <213> Mus musculus

<400> 73  
 Met Asp Glu Thr Ile Ser Gly Ser Ile Glu Ile Glu Thr Leu Ile Pro  
 1 5 10 15  
 His Leu Met Ile Ile Ile Phe Gly Leu Val Gly Leu Thr Gly Asn Ala  
 20 25 30  
 Ile Val Phe Trp Ile Leu Gly Phe Arg Phe His Arg Asn Ala Ile Leu  
 35 40 45  
 Val Tyr Ile Leu Asn Leu Ala Leu Ala Asp Phe Phe Phe Leu Leu Cys  
 50 55 60  
 His Ile Ile Asn Ser Thr Met His Leu Phe Lys Val Arg Pro His Asn  
 65 70 75 80  
 Ser Ile Phe Ile His Cys Phe Asp Thr Ile Arg Thr Val Leu Tyr Ile  
 85 90 95  
 Thr Gly Leu Ser Met Leu Ser Ala Ile Ser Thr Asp Arg Cys Leu Ser  
 100 105 110  
 Val Leu Cys Pro Ile Trp Tyr Arg Cys His Arg Pro His Thr Ser Thr  
 115 120 125  
 Ile Met Cys Val Val Ile Trp Val Leu Ser Leu Ile Cys Leu Leu  
 130 135 140  
 Asn Arg Tyr Phe Cys Asp Leu Phe Gly Pro Lys Tyr Glu Ile Asn Ser  
 145 150 155 160  
 Val Cys Gln Ala Ser Glu Phe Phe Ile Arg Ile Tyr Pro Ile Phe Leu  
 165 170 175  
 Phe Val Val Leu Cys Phe Ser Thr Leu Thr Leu Leu Ala Arg Leu Phe  
 180 185 190  
 Cys Gly Ala Gly Lys Lys Lys Phe Thr Arg Leu Phe Met Thr Ile Met  
 195 200 205  
 Val Thr Ile Leu Val Phe Leu Leu Cys Gly Leu Pro Leu Gly Phe Leu  
 210 215 220  
 Trp Phe Leu Leu Pro Trp Ile Glu Gly Gly Phe Ser Ile Leu Asp Tyr  
 225 230 235 240  
 Arg Phe Phe Leu Ala Ser Leu Val Leu Thr Ala Val Asn Ser Cys Ala  
 245 250 255  
 Asn Pro Ile Ile Tyr Phe Phe Val Gly Ser Tyr Arg His Pro Leu Lys  
 260 265 270  
 His Lys Thr Leu Lys Met Val Leu Gln Ser Ala Leu Gln Asp Thr Pro  
 275 280 285  
 Glu Thr Pro Glu Asn Met Val Asp Ile Ser Arg Ser Lys Ala Glu Pro  
 290 295 300

<210> 74  
 <211> 1738  
 <212> DNA  
 <213> Mus musculus

<400> 74

```
caccacacaac aaccaaatacc aatggacgaa accatcccct ggaagtattg acatcaagac 60
cctgatcgca aatttgatga tcatcatctt cggactggtc gggctgacag aaactgcctt 120
tgtgttctga ctctgggct tccacttgca caggaacgcc ttcttagtct acatcctaaa 180
cttggccctg actgacttcc tcttccttct ctgtcacatc ataaattcca cagtgattct 240
tctcaatgtt cccctacctt acatgatctt ggtccattgc tttagcacca tcagaatatt 300
tctcaacatc acaggcctaa gcattctcag tgccatcagc actgagcgct gcctgtctgt 360
cctgtgcccc atctgggtatc gctgccacca cccagaacac acatcaactg tcatgtgtgc 420
tgtgatctga gtcctgtccc tgttgatttg cactctgtat agatatttct gttttttctt 480
tggtcccaaa tatgtatttg actctgtgtg tctggcaacg acctacttta tcagaacata 540
cccaatgttt ttgtttatgg tctctgtgtc gtccactctg gctctgtctg ccagggtgtt 600
ctgtggtgct ggaagamra aatttaccag gattattcgt gaccatcatg ctgacygttt 660
tggtttttct tctctgtggg atgccctag gcttcttctg gttcgtgttc ccatggatta 720
actgtgattt cagtgtacta gattatagac ttttcttggc atcaattgta ctaactgctg 780
ttaacagtta tggcaacccc atcatttact tcttctgtgg ctccttcagg aatcggttga 840
agcaccagac cctccaaaag gttctccaga gtgcaactgc cgacactcct gagacacctg 900
aaaacatggt agagatgtca agaagcaaag cagagccatg atgaagagtc tctgacagga 960
cttcagaggt ggctttggag tgagcaactgc cctgctgcac ttaaccacac tccactctcc 1020
tctcagctta ctgactatgg atgcctcagt ggtccaacaa tgccttcaaa agctctccac 1080
tgacttagta tttctacctc tcccaagtaa tagcattaat cagaaagtac catgtctgca 1140
tccttcttga cattaatcca attctcatac taacttcac tgtaactttc ttgctgtttc 1200
tttggaactt ttgttaccat agtaatagcc taggtccagc accatgattc ccttgtctgt 1260
gattgttctg tacctacctg aatgtaaagc aaagtagcca ggagatgttc ctgtgtycca 1320
gtgtcatta cccaaacacc accaagaaag cttgtctccc aggagtgcag acaagcctgt 1380
gaacacaggt aagaccacca cttctgttta aaggggcatg cctggaaccc tcaggacaca 1440
ggaacagagg agcagcctgg gacaggatac ttccagtttc caactgcact ccagagctga 1500
ccctgtgccca cagctctcca tacccaaatt cctcccagaa agaattgggtg taccaggagt 1560
actgacacac aggcttgcag aaggaacaag ccacagtcaa agttagcaag acctgctaac 1620
accagagata accagatggc aagacacaag ggcaaaaaca taagcaatgg gaaccaagac 1680
tacttggcat catcagaaac tagttctctc aacatgggtga gccatggata cttcaaca 1738
```

<210> 75

<211> 303

<212> PRT

<213> Mus musculus

<400> 75

```
Met Asp Glu Thr Ile Pro Gly Ser Ile Asp Ile Lys Thr Leu Ile Ala
  1             5             10             15
Asn Leu Met Ile Ile Ile Phe Gly Leu Val Gly Leu Thr Glu Thr Ala
  20             25             30
Phe Val Phe Leu Leu Gly Phe His Leu His Arg Asn Ala Phe Leu Val
  35             40             45
Tyr Ile Leu Asn Leu Ala Leu Thr Asp Phe Leu Phe Leu Leu Cys His
  50             55             60
Ile Ile Asn Ser Thr Val Ile Leu Leu Asn Val Pro Leu Pro Asn Met
  65             70             75             80
Ile Leu Val His Cys Phe Ser Thr Ile Arg Ile Phe Leu Asn Ile Thr
  85             90             95
Gly Leu Ser Ile Leu Ser Ala Ile Ser Thr Glu Arg Cys Leu Ser Val
 100             105             110
Leu Cys Pro Ile Trp Tyr Arg Cys His His Pro Glu His Thr Ser Thr
 115             120             125
Val Met Cys Ala Val Ile Val Leu Ser Leu Leu Ile Cys Thr Leu Tyr
 130             135             140
Arg Tyr Phe Cys Phe Phe Phe Gly Pro Lys Tyr Val Phe Asp Ser Val
 145             150             155             160
```

Cys Leu Ala Thr Thr Tyr Phe Ile Arg Thr Tyr Pro Met Phe Leu Phe  
 165 170 175  
 Met Val Leu Cys Leu Ser Thr Leu Ala Leu Leu Ala Arg Leu Phe Cys  
 180 185 190  
 Gly Ala Gly Lys Lys Lys Phe Thr Arg Leu Phe Val Thr Ile Met Leu  
 195 200 205  
 Thr Val Leu Val Phe Leu Leu Cys Gly Met Pro Leu Gly Phe Phe Trp  
 210 215 220  
 Phe Val Phe Pro Trp Ile Asn Cys Asp Phe Ser Val Leu Asp Tyr Arg  
 225 230 235 240  
 Leu Phe Leu Ala Ser Ile Val Leu Thr Ala Val Asn Ser Tyr Gly Asn  
 245 250 255  
 Pro Ile Ile Tyr Phe Phe Val Gly Ser Phe Arg Asn Arg Leu Lys His  
 260 265 270  
 Gln Thr Leu Gln Lys Val Leu Gln Ser Ala Leu His Asp Thr Pro Glu  
 275 280 285  
 Thr Pro Glu Asn Met Val Glu Met Ser Arg Ser Lys Ala Glu Pro  
 290 295 300

<210> 76  
 <211> 1011  
 <212> DNA  
 <213> Mus musculus

<400> 76  
 aagaggaaac acatatatattt gggatgttaa ccaagggtttt ctatagggaa caatggaaaa 60  
 ctgttcactt caagattaca gtttagctgc atgattaaac tttaaattga cattaacatt 120  
 taattactgg gttttataaa ggtcctgaga tatttaaggt tggattgtct tttatattat 180  
 gatattaata tgcttagaac aaagaaagaa aagtttattg ttcaatgggt aagtgtcttt 240  
 taaatagaag tgggcagagt gtcctggcaa acctcaattt ttaccttgac acagattaaa 300  
 gtcgtatgag aggagaaatc acaacagcag aaatgacaac tgaggaattg tctagattat 360  
 cttggcctgt gggcatgatt atgaggaatt atctttaaca taaattaatg taagcaaaca 420  
 tgggtctatg taggttgcac caataagcta cttaagcagg acctgtaatc atccagaatt 480  
 ggagcttgga aggagtgttt cttgtagata ctgttccttg tgttccttga gttcctgaca 540  
 tgacttccct cactgatgga gtctgtacta agagtataag ccagataacc cattttatatt 600  
 tctaggatgt ttgtgggtcaa aatgttttcc catgaaacag aaaaggaaac tagaacatgc 660  
 acaaattacc taacagatat ttattaagtt agagaatatt ctaagttata caaatactaa 720  
 aggaaactac aaatgtggat ctattaaatt cttatttaaa caaatctgt agagatgata 780  
 aattgttaaa aatgtcataa attttcaatc actatcaagt tcagttacca atgaaattca 840  
 gttattaact gaaaactcct gatctttgga tgaagaagg gcttgtcaaa aatgggagca 900  
 gtcttgacc tataattatt acagtgggtc tcatctcaag gggatccagt gaagtgtcat 960  
 taagaggaga gtaggaaagt tcaacatagt atttctatta aaagtgggtg a 1011

<210> 77  
 <211> 274  
 <212> PRT  
 <213> Mus musculus

<400> 77  
 Leu Leu Ser Ile Ile Ile Ala Phe Ile Gly Leu Ala Glu Asn Ala Ile  
 1 5 10 15  
 Val Leu Trp Leu Leu Gly Phe His Met His Arg Asn Ala Phe Ser Val  
 20 25 30  
 Tyr Ile Leu Asn Ala Gly Ala Asn Phe Leu Phe Leu Cys Pro Tyr Ile  
 35 40 45  
 Val Phe Ser Leu Val Thr Ile Thr Val Asn Phe His Ser Ile Asn Ser

50		55		60
His Ile Ile Leu Phe Leu Asn Thr Val Phe Thr Leu Ala Tyr Leu Ala				
65		70		80
Gly Val Ser Met Ile Thr Ala Ile Ser Val Glu Tyr Trp Leu Ser Val				
	85		90	95
Ile Trp Ser Asn Trp Tyr His Gly Arg His Pro Lys His Thr Ser Ala				
	100		105	110
Phe Ile Cys Thr Leu Leu Trp Ala Val Ser Leu Leu Leu Ser Leu Pro				
	115		120	125
His Glu Ile Ile Cys Gly Leu Leu Asp His Ile Tyr Asn Trp Asp Met				
	130		135	140
Cys Trp Lys Cys Lys Leu Ile Ile Val Val Trp Leu Leu Ile Glu Phe				
	145		150	155
Val Val Leu Ser Gln Ser Asn Gln Ala Met Met Phe Arg Ile Phe Cys				
	165		170	175
Gly Ser Gln Gln Thr Pro Met Thr Arg Leu Phe Val Thr Ile Val Leu				
	180		185	190
Thr Ala Leu Val Val Leu Ile Cys Gly Phe Pro Leu Gly Ile Tyr Ile				
	195		200	205
Tyr Phe Leu Tyr Trp Thr Thr Asp Val Tyr Phe Ile Met Pro Cys Asn				
	210		215	220
Ser Phe His Glu Thr Ile Leu Leu Leu Ser Ala Val Asn Ser Cys Ala				
	225		230	235
Asn Pro Ile Ile Cys Leu Leu Val Gly Ser Ile Lys His Cys Gln Phe				
	245		250	255
Gln Cys Gly Thr Leu Arg Leu Ile Leu Gln Arg Ala Ile Gln Asp Thr				
	260		265	270
Pro Glu				

<210> 78  
 <211> 1358  
 <212> DNA  
 <213> Mus musculus

<400> 78  
 taaattactg aatctctgtg atcctgattc cctctcttta tggacctgtg cctgacatac 60  
 ccacatagtc acatggctct gacagaaact atcatgtgtt catatctcta tgtcttttca 120  
 ggaatgtcag tggaaaattc ctaagcatgg gtacaactag cctggcctgg aacattaaca 180  
 acacagctga aaatggaagc tacactgaaa tgttctcctg tatcaccacg ttcaataccc 240  
 tgaattttct tactgtcatc attgctgtgg ttgtcctggc aggaaattcc atagtgtat 300  
 ggcttctagc cttccacctg cacaggaatg ccttcttctg ctatgtcctc aatctggctg 360  
 gtgctgattt cttgtacctt tgcactcaga ttgtgtattc cctggagtgt gtcattcagt 420  
 ttgataaaaag ctcccttttat attctcctca ttttatcaat gtttgcttac cttgcaggat 480  
 tgagtatgat tgcaaccatc agtactgagc gctgcctatc tgttatgtgg cccatctggg 540  
 atcactgcca aagaccaaga cacacatcag ccatcatgtc tgttctgctc tgggttttct 600  
 ctatactgtt gagcctcctg gtaggactag gctgtgggtt tctgttcaga tattctgaat 660  
 attatttctg tattactttg aactttatca ctgctgcatt tatcataggg ttatctgtgg 720  
 ttctttctgt atctagcctg accctgttgg tcaagatcat ctgtggatca cacaggatac 780  
 ctgtgaccag gttgtttgtt accatttgc tccacagtgg tggcttctat aatctttggc 840  
 atgccccttg gaatctgctg gttcctcttt ccaagtatta ttgagtttca taaaattttc 900  
 tctaacaatt tttatgaaat gatagcattc ctgtcatgta ttaatagttg tgccaatccc 960  
 atcatttact tccttgttgg ctctattagg caccacaggt tgaaatggca gtctcttaag 1020  
 ctacttcttc agagagccat gcaggacact cctgaggaag tgagtggaga gaggggtcct 1080  
 tcagaaaggt ctgggggaact ggaaagagtc tagtgcagta gtggagtgag tccttgatca 1140  
 gatatagttt ctctgagagt caattttgcc tttatctatt taggcaattt tcacagtctt 1200



gttcaatcag tagagaaaat agtcatttta tagaaattag gaggaacagg cttgtttacac 1260  
 agaaactgac ttgcagcacc ataaagctgc cttatgtggt gctcagtga tcccctcgtg 1320  
 atataagcct tgtaatcact tggggccaga acagctcc 1358

<210> 79  
 <211> 268  
 <212> PRT  
 <213> Mus musculus

<400> 79  
 Phe Leu Thr Val Ile Ile Ala Val Val Val Leu Ala Gly Asn Ser Ile  
 1 5 10 15  
 Val Leu Trp Leu Leu Ala Phe His Leu His Arg Asn Ala Phe Phe Val  
 20 25 30  
 Tyr Val Leu Asn Leu Ala Gly Ala Asp Phe Leu Tyr Leu Cys Thr Gln  
 35 40 45  
 Ile Val Tyr Ser Leu Glu Cys Val Ile Gln Phe Asp Lys Ser Ser Phe  
 50 55 60  
 Tyr Ile Leu Leu Ile Leu Ser Met Phe Ala Tyr Leu Ala Gly Leu Ser  
 65 70 75 80  
 Met Ile Ala Thr Ile Ser Thr Glu Arg Cys Leu Ser Val Met Trp Pro  
 85 90 95  
 Ile Trp Tyr His Cys Gln Arg Pro Arg His Thr Ser Ala Ile Met Ser  
 100 105 110  
 Val Leu Leu Trp Val Phe Ser Ile Leu Leu Ser Leu Val Gly Leu  
 115 120 125  
 Gly Cys Gly Phe Leu Phe Arg Tyr Ser Glu Tyr Tyr Phe Cys Ile Thr  
 130 135 140  
 Leu Asn Phe Ile Thr Ala Ala Phe Ile Ile Gly Leu Ser Val Val Leu  
 145 150 155 160  
 Ser Val Ser Ser Leu Thr Leu Leu Val Lys Ile Ile Cys Gly Ser His  
 165 170 175  
 Arg Ile Pro Val Thr Arg Leu Phe Val Thr Ile Cys Phe Thr Val Val  
 180 185 190  
 Val Phe Ile Ile Phe Gly Met Pro Leu Gly Ile Cys Trp Phe Leu Phe  
 195 200 205  
 Pro Ser Ile Ile Glu Phe His Lys Ile Phe Ser Asn Asn Phe Tyr Glu  
 210 215 220  
 Met Ile Ala Phe Leu Ser Cys Ile Asn Ser Cys Ala Asn Pro Ile Ile  
 225 230 235 240  
 Tyr Phe Leu Val Gly Ser Ile Arg His His Arg Leu Lys Trp Gln Ser  
 245 250 255  
 Leu Lys Leu Leu Leu Gln Arg Ala Met Gln Asp Thr  
 260 265

<210> 80  
 <211> 2387  
 <212> DNA  
 <213> Mus musculus

<400> 80  
 gggcctgagg cacaaacctc tcgggctggc agatccctgc gcactcacca tgtaaggtgg 60  
 ccggttgtct ggacgaggaa ttatctttta cacatgttaa tgcaagcaaa catggcctat 120  
 ggtaagttgc accaaaaagc tacctaagca ggacctgttaa ccaatccaga attgcagcta 180  
 ggaaggagag tttcctgtag acactgttcc ttgtgctgct tgagtttctg acatgacttc 240  
 cttcactgat ggactctgta ctgagaggat aagccagata acccatttta tctcctagga 300

```

tgtttgtggt caaaatgttt tcccatgaaa tagaaaagga aactagaaca ggcacaaatt 360
gcctaaaaga tatttattaa gttagagaat attctaagtc atacaaatac taaaggaaac 420
tacaaatgtg gatctattaa attcttattt atcatctgta gagatgataa attgttataa 480
atgtcatata cctttcatca ctatcaagtt cagtgaacaa tgataatcag ttattacctg 540
aagactattg atctttggat gaagaagggg cttgtcaaaa atgggagcag tcctggaccc 600
ataattatta cagtgggtct catctcaagg ggatccagtg aagcgtcatt aagaggagag 660
taggaacgtt caacacacta tttctattaa aagtgggtga ctgatctact ttcaaggga 720
tggttaatat cccaactgat ttcacctcag gccatcaact cagcagggtt gtagaaatgc 780
cccaaaagga taagggcaaa tttgtcctat aagttctctt gtgtatcatc acagcagctc 840
tcagttgcat cactagagtg tagtactctc ttcactctct tcacctcctt cttgttctac 900
aacttcttca acttcttcat cttcttctct agggctctct tgaatggctc tctgaagaat 960
cagcctgaga gtcccacact ggaattggca gtgcttaatt gagccaacaa ataagcaaat 1020
gataaggattg gcacagctgt taacaccgga tagtaggaga attgtctcat aaaaataacc 1080
acaaggcata attgaattct cttcttctct ccagtaaaag aagcatatgc caatcccaaa 1140
gccacagatc aagacgacca gtgctgtaag cataatggtc acaagcagcc tggtcacagg 1200
tgtctgctgt gaaccacaga agacctgaa cagcagggtt tgattggatc tagaaagaac 1260
cacaaataaa acaagtaacc atacaactat gatgagagca agtttccaac acatatccca 1320
gttataaata taatccagca ctttacaat tatccaattc caaagggtca acagaagggg 1380
aaaaaaccca gagcagagta caaatgacag ttgatgtgtg ttttgggcgt tgggcatgat 1440
accaagtggg ccaaaggaca gacaaccagt actccacact aatggctgtg atcatgctca 1500
cccctgcaag gtatgccagt atggtcacat tgacagaaaa caacgcccat gtgaatgtcg 1560
atgtagtgaa actgcctaata gagattttcc agggaaaata caatgtgagt gcagaggaag 1620
aggaagtgtg cccagacag gttgaagatg tagacagaga aggcattcct gtgcatgtgg 1680
aagcccagaa gctgcagcac tatgacattt cctgtcagtc caatgatggc aatgataatg 1740
gaaagcaaac tcatggcaag ggacatgtca caagatgaag attccatgaa gtagctttca 1800
ttctgttctc tgaattcaat attccagtct gggaagcttg aatccatgtt tgggaacact 1860
cctggaataa aaaacaagac ataatcgcat gctttgcatt ctctaattca caagaccacc 1920
ctgatatttg taagctgata tggcacaaaa tgatggaaaa tgagcttaag aaatttatca 1980
aaaccagtat gtttagagac ttctttttaa accagtctga atttatttgg gttatctaca 2040
atccatgtca tgtactaaca cgaatgtagt tgatgggtcca agtatacacc ccaagtgtct 2100
catgttgtgt ggcagaatga aatggaacac tgaacctgta ggggtttgag tataatggca 2160
tccatcaatc catacatttg aatatacagt cactgtttgg tggaaactgtt tggagaaggg 2220
ttatatgtag gggtaattct gatgctaagg tcctgctccc caatcagtta ttgatattgt 2280
gctaaagaaa gacattggcc ctctgctggt cagggggggag ggcaaagggt gatttacagg 2340
actttgggta cctggagtca agcagagaga tgcaagagag gaaagga 2387

```

<210> 81

<211> 273

<212> PRT

<213> Mus musculus

<400> 81

```

Leu Leu Ser Ile Ile Ile Ala Ile Ile Gly Leu Thr Gly Asn Val Ile
 1           5           10          15
Val Leu Gln Leu Leu Gly Phe His Met His Arg Asn Ala Phe Ser Val
      20           25           30
Tyr Ile Phe Asn Leu Ser Gly Ala Asn Phe Leu Phe Leu Cys Thr His
      35           40           45
Ile Val Phe Ser Leu Glu Ile Ser Leu Gly Ser Phe Thr Thr Ser Thr
      50           55           60
Phe Thr Trp Ala Leu Phe Ser Val Asn Val Thr Ile Leu Ala Tyr Leu
      65           70           75           80
Ala Gly Val Ser Met Ile Thr Ala Ile Ser Val Glu Tyr Trp Leu Ser
      85           90           95
Val Leu Trp Pro Thr Trp Tyr His Ala Gln Arg Pro Lys His Thr Ser
      100          105          110
Thr Val Ile Cys Thr Leu Leu Trp Val Phe Ser Leu Leu Leu Thr Leu

```

115	120	125
Trp Asn Trp Ile Ile Cys Lys Val Leu Asp Tyr Ile Tyr Asn Trp Asp		
130	135	140
Met Cys Trp Lys Leu Ala Leu Ile Ile Val Val Trp Leu Leu Val Leu		
145	150	155
Phe Val Val Leu Ser Arg Ser Asn Gln Ala Leu Leu Phe Arg Val Phe		
165	170	175
Cys Gly Ser Gln Gln Thr Pro Val Thr Arg Leu Leu Val Thr Ile Met		
180	185	190
Leu Thr Ala Leu Val Val Leu Ile Cys Gly Phe Gly Ile Gly Ile Cys		
195	200	205
Phe Phe Tyr Trp Lys Lys Glu Asn Ser Ile Met Pro Cys Gly Tyr		
210	215	220
Phe Tyr Glu Thr Ile Leu Leu Leu Ser Gly Val Asn Ser Cys Ala Asn		
225	230	235
Pro Ile Ile Cys Leu Phe Val Gly Ser Ile Lys His Cys Gln Phe Gln		
245	250	255
Cys Gly Thr Leu Arg Leu Ile Leu Gln Arg Ala Ile Gln Glu Ser Pro		
260	265	270
Glu		

<210> 82  
 <211> 1319  
 <212> DNA  
 <213> Mus musculus

<400> 82  
 ttataaaac aggtcagtaa ttaccacata gcaggatggt cctgaatcag aaagaacata 60  
 gcatgtgctc attgttttgt ttatttttgt ccagaaatag tactggagac ttcctaaaca 120  
 aggatctaag catctcaacc ttggaagcta actccagaac atctactgaa cccaatgata 180  
 cttcaggttg tggcatcaag ttccaaacca agatgttgct tccctcatt tccctgtttg 240  
 ggatggtact aaatcccata gtgctgtgat tgctgagctt ccagggtgcac aggaatgcct 300  
 tgtttgtcta catcctcaac cttgctgtgg ttgacatttt cttccgggtt gatcagtttg 360  
 catttttgtt ttttgttatc atttactata tcaagtccat ttccaatgat atcctatcat 420  
 tttttatttt tgtgccagca tttctgtatc ttttaagcct gagcattctc ataaccatta 480  
 gcattgaacg atgcctgtat gtcattgtgg ccattctgga tcaactgtca tgtccaagac 540  
 acacatcagc tgcatttgtt gtcttgcttt gggctctgtc ccttggtgtt atgtttctgg 600  
 atgggaagcg atatttttta ctgttttctg accctaactc tttttggtat cagacatttg 660  
 atatcatcat tactgtatag acaattgttt tatttggtgg tctctgtggg tccagcttaa 720  
 tcctacttgt cagaatcttc tgtggctccc agcagatccc tgtaaccagg ctggatgtga 780  
 tcattgcact cagagtgttt ttcttcctga tatttagttt tcccttttgg atctactggc 840  
 tccttgacca acggattggg agacgttgta attttttgat gaaatgattt tcttatcctg 900  
 tattaagagc tgtgtcaact ccatcattta ctttcttggt gcctccatta tgcacagtag 960  
 tggattcaag gtgaagagtc tcaaactatt tccagagaga gccatgcagg acattcctga 1020  
 agaaggagaa ggtgttgaga atagttctta aggaatcat gaagaactgg agaaatctag 1080  
 tgcagcagac gacagctact ttgattagac agagtggctg tttttcttat ctttgtggac 1140  
 taatttaatg accttattca gtttggtact taatcttcaa tcagttaaaa atgacaatca 1200  
 tttttgtaat agttgaaaga tacagtactt gtcacacaaa tattaactgt gccatttctc 1260  
 ttgctgtgtt tttgaggcct ttaccatttc cttttgatgg gagtacttgc aagtattct 1319

<210> 83  
 <211> 264  
 <212> PRT  
 <213> Mus musculus

<400> 83

Leu Ile Ser Leu Phe Gly Met Val Leu Asn Pro Ile Val Leu Leu Leu  
1 5 10 15  
Ser Phe Gln Val His Arg Asn Ala Leu Phe Val Tyr Ile Leu Asn Leu  
20 25 30  
Ala Val Val Asp Ile Phe Phe Arg Phe Asp Gln Phe Ala Phe Cys Val  
35 40 45  
Phe Val Ile Ile Tyr Thr Ile Lys Ser Ile Ser Asn Asp Ile Leu Ser  
50 55 60  
Phe Phe Ile Phe Val Pro Ala Phe Leu Tyr Leu Ser Leu Ser Ile  
65 70 75 80  
Leu Ile Thr Ile Ser Ile Glu Arg Cys Leu Tyr Val Met Trp Pro Ile  
85 90 95  
Trp Tyr His Cys Gln Cys Pro Arg His Thr Ser Ala Val Ile Cys Val  
100 105 110  
Leu Leu Trp Ala Leu Ser Leu Val Phe Met Phe Leu Asp Gly Lys Ala  
115 120 125  
Tyr Phe Leu Leu Phe Ser Asp Pro Asn Ser Phe Trp Tyr Gln Thr Phe  
130 135 140  
Asp Ile Ile Ile Thr Val Thr Ile Val Leu Phe Val Val Leu Cys Gly  
145 150 155 160  
Ser Ser Leu Ile Leu Leu Phe Arg Ile Phe Cys Gly Ser Gln Gln Ile  
165 170 175  
Pro Val Thr Arg Leu Asp Val Ile Ile Ala Leu Arg Val Leu Phe Phe  
180 185 190  
Leu Ile Phe Ser Phe Pro Phe Trp Ile Tyr Trp Leu Leu Asp Gln Arg  
195 200 205  
Ile Gly Arg Arg Cys Asn Phe Leu Asn Glu Met Ile Phe Leu Ser Cys  
210 215 220  
Ile Lys Ser Cys Val Asn Ser Ile Ile Tyr Phe Leu Val Ala Ser Ile  
225 230 235 240  
Met His Ser Ser Gly Phe Lys Val Lys Ser Leu Lys Leu Phe Pro Glu  
245 250 255  
Arg Ala Met Gln Asp Thr Pro Glu  
260

<210> 84

<211> 2349

<212> DNA

<213> Mus musculus

<400> 84

tttctttctg agaaatagtt tgtttttaaaa taggaatttt aaaacagctt gagacactga 60  
gagttttatcac tggaaccatc aactactcta atgtcaatac aggatatggg ttgtagataa 120  
cccaaataa tatgaatgat atattttaaat taaggctcca gaaatattga ttttgataaa 180  
ttgcttcctg tctaccaccc tgtttcacca ttttaagaac taggtaaacc gttaacatct 240  
ataatggtga tcctaagaat cagagaacaa aaagcatgtg ttcattgtctt gtttttcttt 300  
ccagaaacat cagtgggaagg gatctaagag tggattcaaa cataacatac tggggaacaa 360  
acatcacagc tgtgaatgaa agcaaccaya ctggaatgtc attttgtgaa gtcgtgtctt 420  
gtaccatgkt ttttctttcc ctcatgtgtg ccctagttgg gctggttggg aatgccacag 480  
tgctgtggtt cctgggcttc cagatgcgca ggaatgcatt ctctgtttac atcctcaacc 540  
tcgctggtgc tgactttctc ttcatgtgtt ttcaaattgg atattgtttt cacatgatct 600  
tggacattga ttccatcccc attgaaattg atctgtttta ccttgtttgtg ttaaactttc 660  
cttatttttg tggcctgagt atcctcagtg ctattagcat tgaacgttgc ctgtctgtca 720  
tgtggcccat ttggtatcac tgccaacgcc caaggcacac atcagctgtc atatgtaccc 780  
tgctttgggt cttgtcccta gtgtgtagcc tcttggaagg gaaggaatgt ggcttcctat 840

attacactag tgaccctggt tgggtgaaga catttgattt aatcactgct acatgggttaa 900  
 ttgttttatt tgtagctctc ttgggatcca gtctggcctt agtgattacc atcttctggg 960  
 gcttacacaa gattcctgtg accaggctgt atgtggccat tgtgttcaca gtgcttgttt 1020  
 tcctgctctt tggctgccc tatgggatct actggttcct cttagtgtgg attgagaaat 1080  
 tttattatgt tttaccttgt agtatatatc cggtcacagt atttctctcc tgtgttaaca 1140  
 gctctgcaaa acccatcatt tattgccttg taggctccat taggcatcat cgatttcaac 1200  
 ggaagactct caagctatatt ctgcagagag ccatgcaaga cactcctgag gaggaagaat 1260  
 gtggagagat gggttcctca ggaagatcta gagaaataaa aacaatctgg aaaggactga 1320  
 gagctgcttt gatcaggcat aaagagctct gaagagaact atgtttttat cactttgttg 1380  
 cattttcata acgttgttta gttgatgacc caagggttaac tcagttggga aagtagtcaa 1440  
 tgtttagaaa gttgattgat attggacttg ttacaaatac tgggtacaac atttctgcag 1500  
 ctatcttgct cagggtttta ccaacttctt ttgatgttac tccttgcaag ctctgtgggg 1560  
 tccaggaaaag ctgttgacca caattgataa atcccttctt cagaagaaag ctttaagaaag 1620  
 tacaggaaaag ggttgcattht cttaactcac ttaacttgat agtggataaa ttcatgttat 1680  
 attttgcaaa aaaattatttc tgtttcaagg caaacttttc ttcagtgttg aagggttaaa 1740  
 tagatacatt atataatccc agacttttatt aatttctgta tgttttaaaag aatatgtgga 1800  
 gcaatagttt ttcttataca catttcttaa taaagaagta aacattctca agagaagtgt 1860  
 taaacatcca tgtacatagg aagggtgcagt gtcctctgtg gttctattca cagtttcctt 1920  
 tttagcatcc catagttgag tattgtcttt gatatgatcc tcatgctctc tgactgtgta 1980  
 atccctcatg aaaagtttcc aatgaggtcc tctataaaga ctcccttgaa atacaactta 2040  
 ttttaaattt ataccatttc aaggagccca cagcatctat taacttagct atatgcacag 2100  
 tttagtaaaa ttttctataa aataatattc cttttataaa gctgcagtaa taatttcaat 2160  
 ttttctacaa ttaagagaat aaaatatcaa caaattaaat aaaactaatc agtaggtttt 2220  
 cttaagttaa tgtagctgca tgactctgta cctaataaag acacaaaata ctacactata 2280  
 tcttttaatt ttcatttctt ctctgtcat aattttatat cacagataaa tatgatatcc 2340  
 atacctctg 2349

<210> 85

<211> 273

<212> PRT

<213> Mus musculus

<400> 85

Phe	Leu	Ser	Leu	Ile	Val	Ala	Leu	Val	Gly	Leu	Val	Gly	Asn	Ala	Thr
1				5					10					15	
Val	Leu	Trp	Phe	Leu	Gly	Phe	Gln	Met	Arg	Arg	Asn	Ala	Phe	Ser	Val
			20					25					30		
Tyr	Ile	Leu	Asn	Leu	Ala	Gly	Ala	Asp	Phe	Leu	Phe	Ile	Cys	Phe	Gln
			35				40						45		
Ile	Gly	Tyr	Cys	Phe	His	Met	Ile	Leu	Asp	Ile	Asp	Ser	Ile	Pro	Ile
			50				55					60			
Glu	Ile	Asp	Leu	Phe	Tyr	Leu	Val	Val	Leu	Asn	Phe	Pro	Tyr	Phe	Cys
65					70					75				80	
Gly	Leu	Ser	Ile	Leu	Ser	Ala	Ile	Ser	Ile	Glu	Arg	Cys	Leu	Ser	Val
			85						90					95	
Met	Trp	Pro	Ile	Trp	Tyr	His	Cys	Gln	Arg	Pro	Arg	His	Thr	Ser	Ala
			100					105					110		
Val	Ile	Cys	Thr	Leu	Leu	Trp	Val	Leu	Ser	Leu	Val	Cys	Ser	Leu	Leu
			115				120					125			
Glu	Gly	Lys	Glu	Cys	Gly	Phe	Leu	Tyr	Tyr	Thr	Ser	Asp	Pro	Gly	Trp
			130			135						140			
Cys	Lys	Thr	Phe	Asp	Leu	Ile	Thr	Ala	Thr	Trp	Leu	Ile	Val	Leu	Phe
145					150					155				160	
Val	Ala	Leu	Leu	Gly	Ser	Ser	Leu	Ala	Leu	Val	Ile	Thr	Ile	Phe	Trp
				165					170					175	
Gly	Leu	His	Lys	Ile	Pro	Val	Thr	Arg	Leu	Tyr	Val	Ala	Ile	Val	Phe
			180					185						190	

Thr Val Leu Val Phe Leu Leu Phe Gly Leu Pro Tyr Gly Ile Tyr Trp  
 195 200 205  
 Phe Leu Leu Val Trp Ile Glu Lys Phe Tyr Tyr Val Leu Pro Cys Ser  
 210 215 220  
 Ile Tyr Pro Val Thr Val Phe Leu Ser Cys Val Asn Ser Ser Ala Lys  
 225 230 235 240  
 Pro Ile Ile Tyr Cys Leu Val Gly Ser Ile Arg His His Arg Phe Gln  
 245 250 255  
 Arg Lys Thr Leu Lys Leu Phe Leu Gln Arg Ala Met Gln Asp Thr Pro  
 260 265 270  
 Glu

<210> 86  
 <211> 1313  
 <212> DNA  
 <213> Mus musculus

<400> 86  
 tttattttaat tattttgtta ttgttgtttc aggtagcaag tatttcctaa gcatgggata 60  
 tagacatttc gagcctgggc atttacatca tagcacogaa tggaagcagc tacactaata 120  
 gtgttgattg tttcttcaaa atccaagtca tgggttttct ttccctcatc atttcccctg 180  
 ttgggatggt attaaattcc acagtgtctgt gggtttctggg cttccagata cgtaggaatg 240  
 ccttctctgt ctacatcctc aacctggccg gggtgactt tctcttctctg cactctcagt 300  
 ttttatttta ccttcttctgt atttttccct ccattcctat ccagatccct ctcttttttg 360  
 atatgttgac aaaatttgca tatctttctg ggctgagcat tctcagcacc attagcattg 420  
 agcgctgcct gtgtgtcatg tggcccatct ggtaccgctg tcaaagacca agacacacat 480  
 catctgtaac ctgttccctg ctttgggcctt tgcctctgtt gtttgctctt ctggatggga 540  
 tgggatgtgg cttactgttt aatagttttg accagtcttg gtgtttgaaa tttgatttaa 600  
 tcatttgtgc gtggtcaatt gttttatttg tggttctctg tgggtccagt ctcatcctac 660  
 ttgttaggat cttctgtggc tcccagcaga tccctgtgac caggctgtat gtgaccattg 720  
 cactcacagt gttattcttc ctaatctgct gtcttccctt tggaatctcc tggatcatcc 780  
 aatggagtga aactttgata tatgttggat tttgtgatta ttttcacgag gaactattcc 840  
 tatcctgtat taacagctgt gccaaccta tcatttactt ccttgttggg tttattcgtc 900  
 agcgaaagtt ccaacagaag tctctgaagg tgcttcttca aagagcgatg gaggacactc 960  
 ctgaagaaga aaatgaagac atgggtcctt caagaaatcc agaagaattt gaaacagtct 1020  
 gtagcaactg agaggttctt tgatcagaca gaaatgggtt tttagagaaa aaaatttttt 1080  
 ctcatctctg tgggccattt tcacagtttt gyacagtttg tttcctgata ttcaatcagt 1140  
 taaaaaataa gcatttttgt gaaagtggat agatacaaga cttgtcatac aaatactgac 1200  
 tgtagtattt ttggagctgt tactcagact ttcacatctt ccttttgatg ggattccatg 1260  
 taagtgtctg gagttgagga gatgtgttga ccaactattga caaagccctc att 1313

<210> 87  
 <211> 270  
 <212> PRT  
 <213> Mus musculus

<400> 87  
 Phe Leu Ser Leu Ile Ile Ser Pro Val Gly Met Val Leu Asn Ser Thr  
 1 5 10 15  
 Val Leu Trp Phe Leu Gly Phe Gln Ile Arg Arg Asn Ala Phe Ser Val  
 20 25 30  
 Tyr Ile Leu Asn Leu Ala Gly Ala Asp Phe Leu Phe Leu His Ser Gln  
 35 40 45  
 Phe Leu Phe Tyr Leu Leu Ala Ile Phe Pro Ser Ile Pro Ile Gln Ile  
 50 55 60

Pro	Leu	Phe	Phe	Asp	Met	Leu	Thr	Lys	Phe	Ala	Tyr	Leu	Ser	Gly	Leu
65					70					75					80
Ser	Ile	Leu	Ser	Thr	Ile	Ser	Ile	Glu	Arg	Cys	Leu	Cys	Val	Met	Trp
				85					90					95	
Pro	Ile	Trp	Tyr	Arg	Cys	Gln	Arg	Pro	Arg	His	Thr	Ser	Ser	Val	Thr
			100					105					110		
Cys	Ser	Leu	Leu	Trp	Ala	Leu	Ser	Leu	Leu	Phe	Ala	Leu	Leu	Asp	Gly
		115					120					125			
Met	Gly	Cys	Gly	Leu	Leu	Phe	Asn	Ser	Phe	Asp	Gln	Ser	Trp	Cys	Leu
	130					135					140				
Lys	Phe	Asp	Leu	Ile	Ile	Cys	Ala	Trp	Ser	Ile	Val	Leu	Phe	Val	Val
145				150						155					160
Leu	Cys	Gly	Ser	Ser	Leu	Ile	Leu	Leu	Val	Arg	Ile	Phe	Cys	Gly	Ser
			165						170					175	
Gln	Gln	Ile	Pro	Val	Thr	Arg	Leu	Tyr	Val	Thr	Ile	Ala	Leu	Thr	Val
			180					185					190		
Leu	Phe	Phe	Leu	Ile	Cys	Cys	Leu	Pro	Phe	Gly	Ile	Ser	Trp	Ile	Ile
		195					200					205			
Gln	Trp	Ser	Glu	Thr	Leu	Ile	Tyr	Val	Gly	Phe	Cys	Asp	Tyr	Phe	His
	210					215					220				
Glu	Glu	Leu	Phe	Leu	Ser	Cys	Ile	Asn	Ser	Cys	Ala	Asn	Pro	Ile	Ile
225					230					235					240
Tyr	Phe	Leu	Val	Gly	Phe	Ile	Arg	Gln	Arg	Lys	Phe	Gln	Gln	Lys	Ser
			245					250						255	
Leu	Lys	Val	Leu	Leu	Gln	Arg	Ala	Met	Glu	Asp	Thr	Pro	Glu		
		260						265					270		

<210> 88  
 <211> 1883  
 <212> DNA  
 <213> Mus musculus

<400> 88  
 cgtgtgccac caccaccaac aggtgggaca tttcttaaag tatactattc atttaattctt 60  
 tatcaagttt aattaccaaa gcaattctga cacttcttgc actaccttga tccttttctt 120  
 gagggaggca tttgttccca gtgagagctg ttctgacccc aagagattac aaggggttaca 180  
 tcacaagggg gtgcagtaag gcatacataa ggcagtttga tgggtgctgca gtgaatttct 240  
 gagtaacaag ctccatttct cctaatttga ataaaatgac tattttctct accaattaaa 300  
 caagattgtg aaaactgcct acatagataa aagcaaaatt gactctcaga gaaactatgt 360  
 ctcacatcaagt actctttcaa agcctgcact agactctttc cagttcccta gcctttgtga 420  
 aggacccctc tctcctctct tttcctcact actgtcctac atggttctct gcagaagttg 480  
 cttcaaaatc tgacattgca acctacggtg cctaacagag ccaaggagag agtaaataat 540  
 gggattggca cagctgttaa cacaggaatg ctatcacttc aaaaacattg tatgagaaca 600  
 tgctatgtaa gtccataaac attgtcaaga ggaatgtgca gattccaatg ggcataccaa 660  
 agaatatgaa gaccatcaat gtgagggcaa tggacacata gaacatggtc acaggaatcc 720  
 tgagtgtatc acagaacatt tgacaaacag ggccaggcta gacacaaaak aaaccacaga 780  
 taatactatt atcaatgcag tagygatata gtggcattrta atacagaaat tgtgttcwta 840  
 ataacttaac agaaagccac agccttgtrc aaasrgaagg atcarcagta tagagaaaac 900  
 ccagagcaga gcacacatga cagctgatgt gtgtcttggt cttcagcagt gataccagat 960  
 gggacacata acagataggc agtgctcagc actgattgtt gmaatcatac acaaacctgc 1020  
 aagttaagca atcataaatc ctgtgaggat aaaatgatag tagatcataa gtatcttaag 1080  
 gaaacactgc aggggaatgt acaaactgtg tgcaaatttg caagaaatca gcacaagaca 1140  
 ggtttaagac atagacagag aaggcattcc tatgcagggtg gaaggctaga agccatagca 1200  
 ctatggcatt tcttgccagg ccaagcacag caatgatgac aataagaaaa ttgaatgtgg 1260  
 tgaaacagga taaatttttc agtgcattaa cttccattga cttctgtgtt tttaaatttc 1320  
 cattccaggg tggttggatc catgcttagg aattttccac tggcattcct gcaaagaaat 1380

[illegible][illegible][illegible][illegible]



<400> 90

```
ttataaatga ttttattaag ccatattgac aataatatct atattatatg atgattgcca 60
gaagaagggg aaatgttaag gtgatcaa atgggtctgtg ttctcagaga caccactgga 120
agattttgtga gcatggatcc aaccatctca tcccacaaca cagaatctac accactgaat 180
gaaactgggc attccaaatg cagtccaatc ctgactctgt cctttctggg cctcatcact 240
gtcctgggtg aactaggagg aagcaccatt gtactctggc tcctggaatt cagcatgccc 300
aggaaagcca tctcagtcta tgtcctcaat ctgggtctgg cagactcctt cttcctcggc 360
tgcgatttca ttgaatttct gctacggatc attgacttca tctatgccc taaattaagc 420
aaagatatct taggcaatac agcaatcatt ccttatatcg caggacagaa cgttctcagt 480
gctattagca tggagcactg cctgtctgta ttgtggccaa tctgggtacca ctaccaccac 540
ccaagaaaca tgtcagctat catatgtgcc ctaatctggg ttctgtactt tctcatgggc 600
atcctccatt gggtcttctc agtattcctg ggtgaggctc atcatcattt gaggaaaaag 660
gttgacttta ctataactgc atttctgaa ttttatttat gcttcaactc gtgtccagtc 720
tggccctact gctgaggatc ctctgtggct ccaggaggaa acccctgtcc aggctgtatg 780
ttaccatcgc tctcacagtg atggtcacct catctctggc ctgcctcttg ggctttactt 840
gttctgttta tactggtttg gggttcattt gcatcatccc tcttgtcaca attaccaagt 900
tacttcagtc ctgccctgtg taaacagcta taacaacccc atcatttact tcattgtagg 960
ctcctttagg cctcttagaa agcattaatc cctccaaact attcttaaga gggctctgga 1020
ggacactcct gaggagcatg aatatacagc cagccatctt cagaaaacca ctgagatgtc 1080
agaaagcatt tttgagagtc aaaacaacat taacttaatc ttctctcaga aaccctcag 1140
tgattgcact gctttcaatt gattattttt tatccaattt tcttatactt ctcaaagtag 1200
tcataaataa gaatttctc 1219
```

<210> 91

<211> 270

<212> PRT

<213> Mus musculus

<400> 91

```
Phe Leu Val Leu Ile Thr Val Leu Val Glu Leu Gly Gly Ser Thr Ile
  1             5             10            15
Val Leu Trp Leu Leu Glu Phe Ser Met Pro Arg Lys Ala Ile Ser Val
 20            25            30
Tyr Val Leu Asn Leu Ala Leu Ala Asp Ser Phe Phe Leu Gly Cys Asp
 35            40            45
Phe Ile Glu Phe Leu Leu Arg Ile Ile Asp Phe Ile Tyr Ala His Lys
 50            55            60
Leu Ser Lys Asp Ile Leu Gly Asn Thr Ala Ile Ile Pro Tyr Ile Ala
 65            70            75            80
Gly Gln Asn Val Leu Ser Ala Ile Ser Met Glu His Cys Leu Ser Val
 85            90            95
Leu Trp Pro Ile Trp Tyr His Tyr His His Pro Arg Asn Met Ser Ala
100           105           110
Ile Ile Cys Ala Leu Ile Trp Val Leu Tyr Phe Leu Met Gly Ile Leu
115           120           125
His Trp Phe Phe Ser Val Phe Leu Gly Glu Ala His His His Leu Arg
130           135           140
Lys Lys Val Asp Phe Thr Ile Thr Ala Phe Leu Ile Phe Leu Phe Met
145           150           155           160
Leu His Ser Val Ser Ser Leu Ala Leu Leu Leu Arg Ile Leu Cys Gly
165           170           175
Ser Arg Arg Lys Pro Leu Ser Arg Leu Tyr Val Thr Ile Ala Leu Thr
180           185           190
Val Met Val Tyr Leu Ile Ser Gly Leu Pro Leu Gly Leu Tyr Leu Phe
195           200           205
Leu Leu Tyr Trp Phe Gly Val His Leu His His Pro Ser Cys His Asn
210           215           220
```

Tyr Gln Val Thr Ser Val Leu Pro Cys Val Asn Ser Tyr Asn Asn Pro  
 225 230 235 240  
 Ile Ile Tyr Phe Ile Val Gly Ser Phe Arg Pro Leu Arg Lys His Ser  
 245 250 255  
 Leu Gln Thr Ile Leu Lys Arg Ala Leu Glu Asp Thr Pro Glu  
 260 265 270

<210> 92  
 <211> 1178  
 <212> DNA  
 <213> Mus musculus

<400> 92  
 ttaaggtgat gaaatatggt ctgtgttctc agggacacca ctggaagatt tgtgagcatg 60  
 gatccaatca tctcatccca caacagagaa tcacaccact gaatgaaact gcaatcattc 120  
 caactgcagt ccaatcctga ctctgtcctt tctggtcctc atcactatcc tgggtggaact 180  
 ggcaggaaac accattgtcc tctggctctt gggattccgc atgcacagga aagccatctc 240  
 agtttatgtc ctcaatctgg ctctggcaga ctccgtattc ctctgctgtc atttcattga 300  
 ctctctgcta tgcattcattg acttcatcta tgcccataaa ttaagcagat accttaggca 360  
 atgcagaaat cattccctat atcacagggc tgagcatcct cagtgtctatt agcatggagg 420  
 actacctgtc tgtattgtgg ccaatctggt accaactgcc tcacccaagg aacatgtcaa 480  
 ctatcctatg tgccctaatac tgggttctat cctttctcat gggcatcctc gattggttct 540  
 tctcaggatt cctgggtgag actcatcatt atttgtgaaa aaatgttgac tttattataa 600  
 ctgcatttct gatttttttt tttatttatg ctctctctctg ggtccagtct ggccctactg 660  
 ctgaggatcc tctgtggctc caggaggaaa ccaactgtcca ggttgatgc taccatctca 720  
 ctcacagtga tgggtctacct catctgtggc ctacctcttg ggctttactt gtttctgtta 780  
 cactcctttg gggtaattt gcatcatccc ttttgtcacc tttacaaagt tactgcagtc 840  
 ctgtcctgtg taaacatctc taccaacccc atcaatcatt taattcattg gcatttcttt 900  
 ttttttaaat taggtatttt cctcgtttac attttcaatg ctatcccaa ggtccccat 960  
 accaccccc cccaatccct acccaccac tgcccctttt tggcactggc gttccccctgt 1020  
 actggggcat ataaagtgtg caagtccaat gggcctctct ttgcagtgat gaccgactag 1080  
 gccatctttt gatacatatg cagctaaaga catgagctcc cgggtactgg ttagttcata 1140  
 ttgtttgtcc acctataggg ttgcagttcc ctttagct 1178

<210> 93  
 <211> 243  
 <212> PRT  
 <213> Mus musculus

<400> 93  
 Phe Leu Val Leu Ile Thr Ile Leu Val Glu Leu Ala Gly Asn Thr Ile  
 1 5 10 15  
 Val Leu Trp Leu Leu Gly Phe Arg Met His Arg Lys Ala Ile Ser Val  
 20 25 30  
 Tyr Val Leu Asn Leu Ala Leu Ala Asp Ser Val Phe Leu Cys Cys His  
 35 40 45  
 Phe Ile Asp Ser Leu Leu Cys Ile Ile Asp Phe Tyr Leu Cys Pro Asp  
 50 55 60  
 Ala Asp Thr Leu Gly Asn Ala Glu Ile Ile Pro Tyr Ile Thr Gly Leu  
 65 70 75 80  
 Ser Ile Leu Ser Ala Ile Ser Met Glu Asp Tyr Leu Ser Val Leu Trp  
 85 90 95  
 Pro Ile Trp Tyr His Cys His His Pro Arg Asn Met Ser Thr Ile Leu  
 100 105 110  
 Cys Ala Leu Ile Trp Val Leu Ser Phe Leu Met Gly Ile Leu Asp Trp  
 115 120 125

Phe	Phe	Ser	Gly	Phe	Leu	Gly	Glu	Thr	His	His	Tyr	Leu	Lys	Asn	Val
130						135					140				
Asp	Phe	Ile	Ile	Thr	Ala	Phe	Leu	Ile	Phe	Phe	Phe	Ile	Leu	Leu	Leu
145					150					155					160
Ser	Gly	Ser	Ser	Leu	Ala	Leu	Leu	Leu	Arg	Ile	Leu	Cys	Gly	Ser	Arg
				165					170					175	
Arg	Lys	Pro	Leu	Ser	Arg	Leu	Tyr	Ala	Thr	Ile	Ser	Leu	Thr	Val	Met
			180					185					190		
Val	Tyr	Leu	Ile	Cys	Gly	Leu	Pro	Leu	Gly	Leu	Tyr	Leu	Phe	Leu	Leu
		195					200				205				
His	Ser	Phe	Gly	Val	Asn	Leu	His	His	Pro	Phe	Cys	His	Leu	Tyr	Lys
	210					215					220				
Val	Thr	Ala	Val	Leu	Ser	Cys	Val	Asn	Ile	Ser	Thr	Asn	Pro	Ile	Asn
225					230					235					240
His	Leu	Ile													

<210> 94

<211> 2416

<212> DNA

<213> Mus- musculus

<400> 94

atggaggggac	ccatggctcc	agttgcatgt	gtagcagagg	atggccttgt	agctcatcaa	60
tgggaggaga	gacttttggg	cctgtgaagg	ccctataccc	cagtgttggg	ggttgccagg	120
gagaagaagt	gggagtgggt	gggttggtgt	acagagggag	ggcgataatg	ggttttcaaa	180
ggaaaaatca	ggaaaaggga	taacatttga	aatgtaaata	aagaaaatat	ttaataaaaa	240
gcaaaaatga	aaaaaaagtg	caaaaacatg	ttctattatg	ggagtgggtg	tgttgaggag	300
cagtggggga	gggttaaata	gagaggggac	tgttgagggg	gaaactagga	aaggggataa	360
cattggaaat	gtaaataaag	aaaatatcta	ataaaaaata	aaataaaaaa	ttttggaaga	420
tatttgaaaa	attcattgac	aagggcaaga	atgttgagga	aattcttatt	tttgactact	480
ttgagaagta	taagaaaatt	agattaaaaa	taatcaattg	aaagcactgc	aatcactgag	540
gcgtttctga	gagaagagta	agttaatgtt	gtcttgactc	tcaacatatg	ctttctgaca	600
tctcagtggt	tttctgaaga	tggctgtctg	tatattcatc	ctcttcagga	gtgtctttca	660
gagccctatt	aagaatagtt	tgggaaggac	aacactttct	acaatgccta	aaggagccta	720
caatgaagta	aatgatggga	ttggcagagc	tgtttacaca	ggacaggact	gcagttactt	780
ggtaaagtgt	acaagaggga	taatgcaa	gaaccccaaa	ccagtgtagc	aggaaaaagt	840
aaagcccaag	aggcaggcca	cagatgagat	agaccatcac	tgtgagagag	atggtaactt	900
acagcctgga	caggggtttc	ttcctaggac	cacagaggat	cctcagcagt	agggccagac	960
tggacacaga	gagaagcata	aataaaaaaa	tcagaaatgc	agttataata	aaggcaacat	1020
tttcacaaaa	tgatgattag	tctcaccag	gaatcctaag	aagaaccaat	ccaggatgcc	1080
tatgagaatg	gacagaaccc	agattagggc	atataggata	gctgacatgt	tactttgggtg	1140
gtggaagtca	taccagattg	gccacaatac	agacaggcag	tgtccatgc	taatagcact	1200
gagcaggctg	tgccctgcca	tatagggaat	gattgctgca	ttgcctaaga	tatctttggt	1260
taatttatgg	gcatagatga	agtcaatgat	ccatagcaga	gagtcaatga	aatggcagca	1320
gaggaagaag	gagtcgcca	gagccagatt	gaggacatag	cctgagatgg	gtttcctgtg	1380
cattcagaat	cccaggagcc	agagaacaat	cgtgtttcct	gccagttcca	ccaggacagt	1440
gatgaggacc	agaaaggacg	gagtcaggat	tggactgcag	ttgggatgac	cagtttcatt	1500
cagtggatgt	attcctgtgt	tgtgtgatga	gatgattgga	tccatgctca	caaattcttc	1560
agtggtgtta	ctgagaacac	agaccacatt	taatcacctt	aaaattgacc	cttcttctgg	1620
aaatcataat	ataatataga	tatttttgtc	aatatgcctt	aataaaatca	tttataaata	1680
aaaggaaaagt	aacatgacca	tatggatcaa	gaattctggg	ctgtgaattc	aaattcagag	1740
cttgtgtata	ctctatagt	tgggtcatac	ttcctgtgta	taactcagga	ctttttaatc	1800
gcgtggaaat	ggttccattc	tctcatggac	aaggttggat	ccatttctctg	ctctcctgta	1860
acccagaaa	gggaagcacc	agatttgcct	ccccagggt	taaaataaca	caggaaagat	1920
gaagatatca	gggtattgtc	gaggtacatt	aagggaaata	tccttctgca	tgggtcaaaa	1980

aatgtattct gagttatgca cctaactctc ggtagagaca tgacactggg ctgtgcaaca 2040  
 gattacagat cacatgcatt tacctcctcc cttgagatga ccaagctgca cctatcagtc 2100  
 acttcaccag gggattgctg aggtggcaga aggaatgaca actcactcat ctttcacagg 2160  
 agttatacct tctctgcagc catctctgac cttccctcag ctggtacagt taagcctgtc 2220  
 tgcttttctg aaagcactta aggttccttt ttctttcttt agatctcctt ttcttttgaa 2280  
 catgggtcaa aagaccaagc aacattttcc tgagagtctg gactctctca atcattttctg 2340  
 aaaccacat ctctttccac catgaaagtt ttttcccaac ttccattgct ggacatacca 2400  
 gctttcttgg ggatgt 2416

<210> 95

<211> 269

<212> PRT

<213> Mus musculus

<400> 95

Phe	Leu	Val	Leu	Ile	Thr	Val	Leu	Val	Glu	Leu	Ala	Gly	Asn	Thr	Ile
1				5					10					15	
Val	Leu	Trp	Leu	Leu	Gly	Phe	Met	His	Arg	Lys	Pro	Ile	Ser	Gly	Tyr
			20					25					30		
Val	Leu	Asn	Leu	Ala	Leu	Gly	Asp	Ser	Phe	Phe	Leu	Cys	Cys	His	Phe
			35				40					45			
Ile	Asp	Ser	Leu	Leu	Trp	Ile	Ile	Asp	Phe	Ile	Tyr	Ala	His	Lys	Leu
	50					55					60				
Asn	Lys	Asp	Ile	Leu	Gly	Asn	Ala	Ala	Ile	Ile	Pro	Tyr	Met	Ala	Gly
65					70					75				80	
His	Ser	Leu	Leu	Ser	Ala	Ile	Ser	Met	Glu	His	Cys	Leu	Ser	Val	Leu
				85					90					95	
Trp	Pro	Ile	Trp	Tyr	Asp	Phe	His	His	Gln	Ser	Asn	Met	Ser	Ala	Ile
			100					105						110	
Leu	Tyr	Ala	Leu	Ile	Trp	Val	Leu	Ser	Ile	Leu	Ile	Gly	Ile	Leu	Asp
		115					120					125			
Trp	Phe	Phe	Leu	Gly	Phe	Leu	Gly	Glu	Thr	Asn	His	His	Leu	Cys	Glu
	130					135					140				
Asn	Val	Ala	Phe	Ile	Ile	Thr	Ala	Phe	Leu	Ile	Phe	Leu	Phe	Met	Leu
145					150					155				160	
Leu	Ser	Val	Ser	Ser	Leu	Ala	Leu	Leu	Leu	Arg	Ile	Leu	Cys	Gly	Pro
				165					170					175	
Arg	Lys	Lys	Pro	Leu	Ser	Arg	Leu	Val	Thr	Ile	Ser	Leu	Thr	Val	Met
			180					185					190		
Val	Tyr	Leu	Ile	Cys	Gly	Leu	Pro	Leu	Gly	Leu	Tyr	Phe	Phe	Leu	Leu
		195					200					205			
His	Trp	Phe	Gly	Val	His	Leu	His	Tyr	Pro	Ser	Cys	His	Ile	Tyr	Gln
	210					215					220				
Val	Thr	Ala	Val	Leu	Ser	Cys	Val	Asn	Ser	Ser	Ala	Asn	Pro	Ile	Ile
225					230					235				240	
Tyr	Phe	Ile	Val	Gly	Ser	Phe	Arg	His	Cys	Arg	Lys	Cys	Cys	Ser	Phe
				245					250					255	
Gln	Thr	Ile	Leu	Asn	Arg	Ala	Leu	Lys	Asp	Thr	Pro	Glu			
			260					265							

<210> 96

<211> 1954

<212> DNA

<213> Mus musculus

<400> 96

```

tggcattcgg tacctgcctc ctggcagaag atgaaggccc gaaatagggc atgtcccagt 60
aagctgttag cttctgtatt ccaaactctc acctacacag actagtctca gagggatcgg 120
ggaaccaaga tggcttcccc atggtactcc agcaaaacac tcccagggtga ggtggacacc 180
tctcctctga caggggaagg gcccggatat ctggagcctg aaacgggggtc tgcctcagaa 240
gctgttagct tctgtagtcc acactctcac atgtgtaggc tagtctcagc aggatccagg 300
aaccaagatc agaagggtca atgttcagggt gatcaaatgt agtctgtgtt cacagggata 360
ccactggaag atttgtgagc atggatccaa tcatctcatc ccacaacaca gaatcacacc 420
actgaatgaa actggtcatc ccaactgcag tacaatcctg actccatcct ttctggctct 480
catcactgtc ctggtggaac tggcaggaaa taccattgta ctctggctcc tgagattcca 540
catgcacagg atagcccac tcagactatg tcctcaatct ggctctggca gattccttct 600
tctctcctg ccagttcatt gactctctgc tatggatcct tgacttcac tcagggccata 660
aattaagcaa agatatctta tggaaatgcag caatcattcc caataatgca gggctgagct 720
acctcagtgc tattagcatg gagcactgcc tgcctgtatt gtggccaatc tggcaccact 780
gccaccacac aagaaacatg tcagctatca tatgtgccct aatctgggtt ctgtcctttc 840
tcatgggcat cctcgattag tacttctcag gattcctggg tgagactcat catcagttgt 900
ggaaaaatgt tgattttatt ctaactgcat ttctgatttc tttttttttt tatttatgct 960
tctctctggg tccagtctgg ccctacgact gaggatcctc tgtggctcca ggaggaaacc 1020
cctgtccttg ctgtatgta tcatctctct cacagtgatg gtctacctca tctgtggcct 1080
acctgttggg ctttacttgt tctgtttaa ctggtttggg gttcatttgc atcatcccat 1140
ttgtcacatt tatcaagta ctgcactcct gccctttgta aacagctttg ccaaaccat 1200
catttccttc attgtaggct cctttaggca ttgtagaaag cattgggtccc gccaaactat 1260
tattaagagg gctctggagg acactcctga ggaggatgaa tatacagata gccatcttca 1320
gaaaactact gagatgtcag aaagcagatg ttgagagtca agacaacatt aacttaatct 1380
tctctcagaa acacctcact ggttgcagtg ctttcaattg attatTTTTT aatccaattt 1440
tcttataagt ctcaaagtag tcataaataa gaattttctc aacattcttg gccttgtcaa 1500
tgaattttctc aaatatcctc caaaacattt tgtatataat ttaatttttt tagatatttt 1560
ctatatttat atttccaatg ttatccccctt yccttagttt cccctccaaa agccccctct 1620
ccccctcccc cccccactgc tcctcaatat actcactccc ataattgaac acctttttgc 1680
acttttttct tttttttcac tttttgtttt ttattagata ttttctttat ttacatttca 1740
aatgttgcct cttttcctga ttttcctct gaaaaccat tactgtcatc cccctgtaca 1800
ccatccctcc cacttctact tctatcctag gcattccct acactgggg atagggcctt 1860
cacaggacca agagtctctc ctcccattga tgagctacaa ggccatcctc tgctacacat 1920
ggcaactgga gccatgggtc cctccatgtg tact 1954

```

<210> 97  
 <211> 272  
 <212> PRT  
 <213> Mus musculus

<400> 97

Phe	Leu	Val	Leu	Ile	Thr	Val	Leu	Val	Glu	Leu	Ala	Gly	Asn	Thr	Ile
1			5						10					15	
Val	Leu	Trp	Leu	Leu	Arg	Phe	His	Met	His	Arg	Ile	Ala	Leu	Ser	Asp
	20							25					30		
Tyr	Val	Leu	Asn	Leu	Ala	Leu	Ala	Asp	Ser	Phe	Phe	Leu	Ser	Cys	Gln
	35						40					45			
Phe	Ile	Asp	Ser	Leu	Leu	Trp	Ile	Leu	Asp	Phe	Ile	Ala	His	Lys	Leu
	50					55					60				
Ser	Lys	Asp	Ile	Leu	Trp	Asn	Ala	Ala	Ile	Ile	Pro	Asn	Asn	Ala	Gly
65				70					75					80	
Leu	Ser	Tyr	Leu	Ser	Ala	Ile	Ser	Met	Glu	His	Cys	Leu	Pro	Val	Leu
			85					90					95		
Trp	Pro	Ile	Trp	His	His	Cys	His	His	Thr	Arg	Asn	Met	Ser	Ala	Ile
			100					105					110		
Ile	Cys	Ala	Leu	Ile	Trp	Val	Leu	Ser	Phe	Leu	Met	Gly	Ile	Leu	Asp
	115					120					125				
Tyr	Phe	Ser	Gly	Phe	Leu	Gly	Glu	Thr	His	His	Gln	Leu	Trp	Lys	Asn

130	135	140
Val Asp Phe Ile Leu Thr Ala Phe Leu Ile Val Phe Phe Phe Leu Phe		
145	150	155
Met Leu Leu Ser Gly Ser Ser Leu Ala Leu Arg Leu Arg Ile Leu Cys		160
	165	170
Gly Ser Arg Arg Lys Pro Leu Ser Leu Leu Tyr Val Ile Ile Ser Leu		175
	180	185
Thr Val Met Val Tyr Leu Ile Cys Gly Leu Pro Val Gly Leu Tyr Leu		190
	195	200
Phe Leu Leu Asn Trp Phe Gly Val His Leu His His Pro Ile Cys His		205
	210	215
Ile Tyr Gln Val Thr Ala Leu Leu Pro Phe Val Asn Ser Phe Ala Lys		220
225	230	235
Pro Ile Ile Ser Phe Ile Val Gly Ser Phe Arg His Cys Arg Lys His		240
	245	250
Trp Ser Arg Gln Thr Ile Ile Lys Arg Ala Leu Glu Asp Thr Pro Glu		255
	260	265
		270

<210> 98

<211> 1893

<212> DNA

<213> Mus musculus

<400> 98

ttagcaatcc	cctggccagg	tgactgacag	gtgcagctta	gtctttctca	agggatgagg	60
taattgcatg	tgatctgtaa	tctgttgac	agaccagtgt	catgtctcaa	cccagagtta	120
ggtgtataac	tcagaatcca	tttttttgac	catgcagaag	catctttcct	ttaatgtact	180
tcaacaaaac	cctgatatct	tcatcttttc	tgcgttattt	taagccctgg	ggaggcaaat	240
atgatgcttc	ccctttctag	gggttacagg	ggagcaggaa	atggatgcag	ccctgacat	300
gatagtaggg	aatcatttcc	atgtgattta	aaggctcctga	gttatacaca	ggaagaatga	360
cccagactag	agtatgtaca	agctctgaat	ttgaatccaa	atccagaatt	cttgatccac	420
atggatcatgt	tattctcctt	tttttataaa	tgattttatt	aagccatatt	gacaacaata	480
tctatattac	attatgattg	ccagaagaag	ggtcaatggt	aaggatgatga	aatatggtct	540
gtgttctca	ggcacaacac	tggaagattt	ttgagcatgg	atccaaccat	ctcattccac	600
aacacagaat	ctacaccact	gaatgaaact	tgtcatccaa	atacagtcca	atcctgactc	660
cgctctttct	ggctctcatc	actgtcctgg	tggacctggc	aggaaacacc	attgttctct	720
ggctcctggg	attccgcatg	cacaggaaac	ccatctcagt	ctatgtcctc	aacctggctc	780
tgggcgactc	cttcttctgc	tgccatttca	ttgactctct	gctatggatc	attgacttca	840
tctatgccca	taaattaagc	aaagatatct	taggcaatgt	agcaatcggt	ccctatatcg	900
cagggctgag	cgctctcagt	gctattagca	tggagaactg	actgtttata	ttgtggccaa	960
tctggtacca	ctgccaccac	ccaagaaaca	tgtcagctat	cctatgtgcc	ctaactctggg	1020
ttctgttctt	tctcatgggc	atcctcgggt	ggttcttctt	aagatttttg	ggtgaaactc	1080
atcattgact	ttattatacc	tgcatttctg	attttttttt	tatttatgct	tctctctggg	1140
tccattctgg	ccctactgct	gaggatcctc	tatggttcca	ggaggaaatc	cctgtccagg	1200
ttgtatgta	acatctctct	cacagtgatg	gtctacctca	tctgtggcct	gcctcttgga	1260
ctttacttgg	tctgtttata	ctgctttggg	gttcattttac	atcatccctc	tcctcacatt	1320
taccaagtta	ctgtggtctt	gtcctatgtg	gacagctctg	ccaaccacat	cttttatttc	1380
cttgacggtt	cctttaggta	ttgtagaaag	cattgggtccc	tccaaactct	tctaagaggg	1440
actctagagg	acactcctgg	ggaggatgaa	tatacagaca	gccatcttca	gaaaaccact	1500
gagatgtcag	aaagcagatg	ttgagagtca	acacattaac	ttactcttct	ctaagaaacg	1560
cctcagtgat	tgcaatgctt	tcaattggtt	tttcttttta	atcaaatttt	cttatacttc	1620
tcaaagtagt	cagaaatgag	aattttctga	aaattcttgg	cactgtcaat	gaatttttca	1680
aatatcttcc	aaaactttct	tattttattt	tattttattt	ttattagaca	ttttctttat	1740
ttacatttca	aatgttatcc	cctttactag	tttcccctcc	aaaaaagcac	tatcccctca	1800
cccctctacc	tgctcccac	attaccact	cccataattg	aacacttttt	tcttttttta	1860
acttattatt	tttattagat	attttcttta	ttt			1893

<210> 99  
 <211> 262  
 <212> PRT  
 <213> Mus musculus

<400> 99

Phe	Leu	Val	Leu	Ile	Thr	Val	Leu	Val	Asp	Leu	Ala	Gly	Asn	Thr	Ile
1			5					10					15		
Val	Leu	Trp	Leu	Leu	Gly	Phe	Arg	Met	His	Arg	Lys	Pro	Ile	Ser	Val
	20						25					30			
Tyr	Val	Leu	Asn	Leu	Ala	Leu	Gly	Asp	Ser	Phe	Phe	Cys	Cys	His	Phe
	35						40					45			
Ile	Asp	Ser	Leu	Leu	Trp	Ile	Ile	Asp	Phe	Ile	Tyr	Ala	His	Lys	Leu
	50					55					60				
Ser	Lys	Asp	Ile	Leu	Gly	Asn	Val	Ala	Ile	Val	Pro	Tyr	Ile	Ala	Gly
65					70					75					80
Leu	Ser	Val	Leu	Ser	Ala	Ile	Ser	Met	Glu	Asn	Leu	Phe	Ile	Leu	Trp
			85						90					95	
Pro	Ile	Trp	Tyr	His	Cys	His	His	Pro	Arg	Asn	Met	Ser	Ala	Ile	Leu
			100					105					110		
Cys	Ala	Leu	Ile	Trp	Val	Leu	Phe	Phe	Leu	Met	Gly	Ile	Leu	Gly	Gly
	115						120					125			
Ser	Ser	Asp	Phe	Trp	Val	Lys	Leu	Ile	Ile	Asp	Phe	Ile	Ile	Pro	Ala
	130					135					140				
Phe	Leu	Ile	Phe	Phe	Leu	Phe	Met	Leu	Leu	Ser	Gly	Ser	Ile	Leu	Ala
145					150					155					160
Leu	Leu	Leu	Arg	Ile	Leu	Tyr	Gly	Ser	Arg	Arg	Lys	Ser	Leu	Ser	Arg
			165					170						175	
Leu	Tyr	Val	Asn	Ile	Ser	Leu	Thr	Val	Met	Val	Tyr	Leu	Ile	Cys	Gly
		180						185					190		
Leu	Pro	Leu	Gly	Leu	Tyr	Leu	Val	Leu	Leu	Tyr	Cys	Phe	Gly	Val	His
		195					200					205			
Leu	His	His	Pro	Ser	Pro	His	Ile	Tyr	Gln	Val	Thr	Val	Val	Leu	Ser
	210					215					220				
Tyr	Val	Asp	Ser	Ser	Ala	Asn	His	Ile	Phe	Tyr	Phe	Leu	Ala	Gly	Ser
225					230					235					240
Phe	Arg	Tyr	Cys	Arg	Lys	His	Trp	Ser	Leu	Gln	Thr	Leu	Leu	Lys	Arg
			245					250						255	
Thr	Leu	Glu	Asp	Thr	Pro										
			260												

<210> 100  
 <211> 1290  
 <212> DNA  
 <213> Mus musculus

<400> 100

```

cctctggcta ggtgactgac aggtgcagct tggatcatctc aaggaggagg gttactgcat 60
ttgatctata atctgttgca cagaccagtg tcttgtctcg acccagagtt aggtgtataa 120
ctcagaatcc attcttttga ccggtgcaaaa gtatctttct cttgatgtac ctcaacaaaa 180
ccctgataat ttcattcttc ctgtgttatt ttaagccctg ggggagtaca aatctgatgc 240
ttccctttct gtggttacag gtagagcagg aaatggatcc taccctgacc atgagagaag 300
ggaatcattt ccatgtgatt aaaaggctct gagttatata ctggaagtat gaccagact 360
acagagtata cacaagctct gaatttgaat ccacagtcca gaattcttga tcaatgtagt 420
catgttactc tccttttttt tataaatgat tttagcaagc catattgaca acaatatcta 480

```

tattacatta tgatgccag aagaaaggtc aatgttaagg tgatcaaaca tgggtcttgtt 540  
ctcagggaca ccactggaag atttgtgctc atggatccaa tcatcttata ccacaacaca 600  
gaatcacact gctgaatgaa actggtcaac ccaacttcag tccaatcctg actctgtctc 660  
tctggtcctc atcactgtcc tgtttgaact ggcaggaaac accattgtac tctgggtcct 720  
gggattccac atgcacaagg aaagtcattc cagtctatgt cctcaatctg gctcttgcag 780  
actccttctt cctcagctgc caattcattg actctctgct ttgaagcatt gacttcctct 840  
atgcatataa attaagcaaa gatatactag gcaatgcagc aatcggtccc tatatgcag 900  
ggctgagtat cctcagtgct attagcatgg agcactgcct gtctgtatag tggcaaatgc 960  
ggtaccactg ccactaccca agaaacatgt cagctatcct atgtgcccta atctgggttc 1020  
tgtcttttct catggacatc ctggattggt tcttctcagg attcctgggt gagactcatc 1080  
atcatttatg gaaaaatatt gacttcatta taactgcatt tctgattttt ttatttatgc 1140  
ttctctctgg ctccagtcg gccctactgc tgaggattct ttatggcttc aagaggaaac 1200  
ccctgtccag gctatatatt atcatctctc tcacagtgat ggtctacctc atctgggcct 1260  
gccccttggg ctttcatttt tctgtttaca 1290

<210> 101

<211> 207

<212> PRT

<213> Mus musculus

<400> 101

Leu Val Leu Ile Thr Val Leu Phe Glu Leu Ala Gly Asn Thr Ile Val  
1 5 10 15  
Leu Trp Leu Leu Gly Phe His Met Thr Arg Lys Val Ile Ser Val Tyr  
20 25 30  
Val Leu Asn Leu Ala Leu Ala Asp Ser Phe Phe Leu Ser Cys Gln Phe  
35 40 45  
Ile Asp Ser Leu Leu Ser Ile Asp Phe Leu Tyr Ala Tyr Lys Leu Ser  
50 55 60  
Lys Asp Ile Leu Gly Asn Ala Ala Ile Val Pro Tyr Ile Ala Gly Leu  
65 70 75 80  
Ser Ile Leu Ser Ala Ile Ser Met Glu His Cys Leu Ser Val Trp Gln  
85 90 95  
Met Arg Tyr His Cys His Tyr Pro Arg Asn Met Ser Ala Ile Leu Cys  
100 105 110  
Ala Leu Ile Trp Val Leu Ser Phe Leu Met Asp Ile Leu Asp Trp Phe  
115 120 125  
Phe Ser Gly Phe Leu Gly Glu Thr His His His Leu Trp Lys Asn Ile  
130 135 140  
Asp Phe Ile Ile Thr Ala Phe Leu Ile Phe Leu Phe Met Leu Leu Ser  
145 150 155 160  
Gly Ser Ser Leu Ala Leu Leu Leu Arg Ile Leu Tyr Gly Phe Lys Arg  
165 170 175  
Lys Pro Leu Ser Arg Leu Tyr Ile Ile Ile Ser Leu Thr Val Met Val  
180 185 190  
Tyr Leu Ile Leu Gly Leu Pro Leu Gly Leu Ser Phe Phe Leu Leu  
195 200 205

<210> 102

<211> 1389

<212> DNA

<213> Mus musculus

<400> 102

ttaagtgat caaatatggc ctgttttctc agggacacca ctggaagatt tttaaactg 60  
gatccaaaca tctcatcca caacacagaa tctactccac tgaatgaaac tggatcatcca 120



```

aacttcagta caatactcac gctgtccitt ctggctcctg tcaactgtcct cgtggaactg 180
gcaggaaca ccattgtact ctggctcctg ggattccgca tgcacaggaa agccatctca 240
gtctatgtcc tcaatctggc tctggcagac tcttcttct gctgccattt cattgactct 300
ctgctatgga tcaactgactt catctatacc cataaattaa gcaaagatat cttacgcaat 360
gcagcaattg ttcctatat cgcaagactg agcgtcctca gtgctattag aatggagcac 420
ttactgttta tattgtggcc aatctggtac cactgccacc acccaagaaa catatcagct 480
atcctatgtg ccctaactctg ggttctgttc tttctcatgg gcacacctga ttggttcttc 540
ttaggattcc tgggtgagac tcatcatcat ttgtggaaaa atattgactt tattatacct 600
gcatttctga tttttttaat gctgctttct ggtccactc tggccctact gctgaggata 660
ctttgtggtt ccaggaggaa actcctgtcc aggtgtatg ttaccatctc tctcacagtg 720
atggtctacc tcatctgtgg catgcctctt gggctttact tgttcctgtt atactggttt 780
gggattcatt tacactatcc ctctgtcac atttaccagg ttactgcact cttgtcctat 840
gtggacagct ctgccaacca catcttttat ttccttgtag gctcctttag gcattttaga 900
aagcattggt ccctctaaac tattctaaag aggacctgg agaacattcc tgaggaggat 960
gaatatacag acagctatct tcagaatacc actgagatgt cagaaatcag atgttgagag 1020
tcaacacatt aacttactct tctctcagaa acgcctcagt gattgcaacg ctttcaattt 1080
ttttgtttgt ttggtttttt tttttttgga ttgttttaa ttaggtattt tggattttta 1140
catttccaaa tttatattta tacttccaaa agtcccccat accttcccct gccaatcccc 1200
taccactttt ttggccctgg cgtttccctg tactggggca tataaagttt gcaagtccag 1260
tgggcctctc tttccagtga tggcctacta agccatcttt tgatacatat gcagctagag 1320
tcaagagctc cagggtactg attaattcat aatgttgttc cacctatagg gttgcagatc 1380
cctttagca 1389

```

```

<210> 103
<211> 206
<212> PRT
<213> Mus musculus

```

```

<400> 103
Phe Phe Cys Cys His Phe Ile Asp Ser Leu Leu Trp Ile Thr Asp Phe
 1           5           10           15
Ile Tyr Thr His Lys Leu Ser Lys Val Tyr Leu Thr Gln Cys Ser Asn
          20           25           30
Phe Pro Tyr Ile Ala Arg Leu Ser Val Leu Ser Ala Ile Arg Met Glu
          35           40           45
His Leu Leu Phe Ile Leu Trp Pro Ile Trp Tyr His Cys His His Pro
          50           55           60
Arg Asn Ile Ser Ala Ile Leu Cys Ala Leu Ile Trp Val Leu Phe Phe
          65           70           75           80
Leu Met Gly Ile Leu Asp Trp Phe Phe Leu Gly Phe Leu Gly Glu Thr
          85           90           95
His His His Leu Trp Lys Asn Ile Asp Phe Ile Ile Pro Ala Phe Leu
          100          105          110
Ile Phe Leu Met Leu Leu Ser Gly Ser Thr Leu Ala Leu Leu Leu Arg
          115          120          125
Ile Leu Cys Gly Ser Arg Arg Lys Leu Leu Ser Arg Leu Tyr Val Thr
          130          135          140
Ile Ser Leu Thr Val Met Val Tyr Leu Ile Cys Gly Met Pro Leu Gly
          145          150          155          160
Leu Tyr Leu Phe Leu Leu Tyr Trp Phe Gly Ile His Leu His Tyr Pro
          165          170          175
Ser Cys His Ile Tyr Gln Val Thr Ala Leu Leu Ser Tyr Val Asp Ser
          180          185          190
Ser Ala Asn His Ile Phe Tyr Phe Leu Val Gly Ser Phe Arg
          195          200          205

```

<210> 104  
<211> 1420  
<212> DNA  
<213> Mus musculus

<400> 104  
aaaaaggaac cttacacttt tctgagttag tgtgcattca gagaatcaga cagtcttaac 60  
tgtacccctt gaggggaagg cagagatggc tgcataagagg gtgcaactcc tgtgaaggat 120  
gagtgaattg tcatttcctt tgccatctta gcaatcccct ggccagggtga ctgacaggta 180  
caacattgtc aactcaaggg aggakrtaaa tgyrtgtgat ccttaatcta gagcacagac 240  
cagagtcaca tmtcaaccga gagttagggg tagaaytcag aatccattct tttgatgatg 300  
aggaagtatc tttcccttaa tatgcctcaa caaaaccctg atatcatcat cttttctgtg 360  
tcattttaag ccctggggag gtaaatgtga tgcttccctt tctggagtta ccaagggtggc 420  
aggaaatgga tccaaccctg accatgaaaa aaggaaatcg tttccatgtg aattaaagat 480  
cctgagttat acacaggaag aatgatgcag actatagagt aaacacaagc tctaaatttg 540  
aatccacagt ccagaattct taatcccagtg tggcatggtt actttccttt tatttataaa 600  
tcattttatt taataatgtt gacaagaata tctatattay rttatgattg ccagaagaag 660  
ggtcagtgtt aatgtgctca aatatggtct gtgttctcag ggacacaact ggaagatttg 720  
tgagcatgga ttcaaccatc tcatcccaca acacaawatc tacacaactg aatgaaactg 780  
stratcctaa ctgcagtcca atcctgacmc tgyccctcct ggccctcatc actgccctgg 840  
tttgactggc agaaaacact attatactct gactcctggg attccccatg cacaggaaag 900  
ccatctcagt ctatatcctc aaccaggctc tggcagactc cttcttctctc tgctgtcact 960  
tccttgactc tatgctacag atcattgact tctatggcat ctatggccat aaattaagca 1020  
aagatatctt aggcaatgca gcaatcattc cctatatcac agggctgagc gtcctcagtg 1080  
ctattagcac tgccgtgcta tattgtggcc aatctggtac cattgccacc acccaagaaa 1140  
catgtcaggt atcatatgtg ccctaactctg ggttctgtcc tttctcatgg gcatccttga 1200  
ttggttcttc tcaggattcc tgggtgagac tcattatcat ttgtgggaaa atgttgactt 1260  
tattataact gcatttttta tttatgcttc tctctgggtc tactcatgag gatcctctgt 1320  
ggaggaaaacc cctgtccagg ctgtatgtta ccatctctct cacagtgatg ggctacctca 1380  
tctgtggcct gcctcttggtg ctttacttgt ctctgttaca 1420

<210> 105  
<211> 200  
<212> PRT  
<213> Mus musculus

<400> 105  
Phe Leu Ala Leu Ile Thr Ala Leu Val Leu Ala Glu Asn Thr Ile Ile  
1 5 10 15  
Leu Leu Leu Gly Phe Pro Met His Arg Lys Ala Ile Ser Val Tyr Ile  
20 25 30  
Leu Asn Gln Ala Leu Ala Asp Ser Phe Phe Leu Cys Cys His Phe Leu  
35 40 45  
Asp Ser Met Leu Gln Ile Ile Asp Phe Tyr Gly Ile Tyr Gly His Lys  
50 55 60  
Leu Ser Lys Asp Ile Leu Gly Asn Ala Ala Ile Ile Pro Tyr Ile Thr  
65 70 75 80  
Gly Leu Ser Val Leu Ser Ala Ile Ser Thr Asp Leu Ser Ile Leu Trp  
85 90 95  
Pro Ile Trp Tyr His Cys His His Pro Arg Asn Met Ser Gly Ile Ile  
100 105 110  
Cys Ala Leu Ile Trp Val Leu Ser Phe Leu Met Gly Ile Leu Asp Trp  
115 120 125  
Phe Phe Ser Gly Phe Leu Gly Glu Thr His Tyr His Leu Trp Glu Asn  
130 135 140  
Val Asp Phe Ile Ile Thr Ala Phe Phe Ile Val Cys Phe Ser Leu Gly  
145 150 155 160

Leu Leu Met Arg Ile Leu Cys Gly Gly Ile Pro Leu Ser Arg Leu Tyr  
165 170 175  
Val Thr Ile Ser Leu Thr Val Met Gly Tyr Leu Ile Cys Gly Leu Pro  
180 185 190  
Leu Gly Leu Tyr Leu Ser Leu Leu  
195 200

<210> 106  
<211> 730  
<212> DNA  
<213> Mus musculus

<400> 106  
tgtgatctgt gttctcaggg acaccgctgg aagcatttgt gagcatggat ccaatcatct 60  
catcccacaa cacagaatca caccactgaa tgaaaactgg catcccaact gcagtccaat 120  
cctgacacca ttctttctgg tcctcatcac tgtactgggt gaattggcag gggaacacca 180  
ttatactctg gctcctggga tttcgcacga acaggaaagc aatctcagtt tatgtcctca 240  
atctggctct ggcagactcc ttcttttcct ctgttgccat ttcattgact ctctgctaca 300  
gaacattgac ttcacaaatg cccataaatt aagcaaacat atcttaggaa atgcagcaat 360  
cattccctat attgcagggc tgagcctcct cagtgcattt agcatggagc actgcctggt 420  
tatattatgg ccaatctggg accactgcca ccacatgtca gctatcatat gtgccctaata 480  
ctgggttccg tcttttctca agggcattct caatttggtt ttctcaggat tcttggtgga 540  
gactcatcat catttggtgg aaaatattga ctttattata actgcatttc tgattttttt 600  
atattatgct ctctgtgggt gcactttggc cctagagctg aggatactct gtggctccag 660  
gaagaaaccc ctgtccaggc tgtaagttac catctctctc acagcgatgg tctacctcat 720  
ctgtggcctg 730

<210> 107  
<211> 198  
<212> PRT  
<213> Mus musculus

<400> 107  
Phe Leu Val Leu Ile Thr Val Leu Val Glu Leu Ala Gly Asn Thr Ile  
1 5 10 15  
Ile Leu Trp Leu Leu Gly Phe Arg Met Asn Arg Lys Ala Ile Ser Val  
20 25 30  
Tyr Val Leu Asn Leu Ala Leu Ala Asp Ser Phe Val Phe Leu Cys Cys  
35 40 45  
His Phe Ile Asp Ser Leu Leu Gln Asn Ile Asp Phe Ile Asn Ala His  
50 55 60  
Lys Leu Ser Lys His Ile Leu Gly Asn Ala Ala Ile Ile Pro Tyr Ile  
65 70 75 80  
Ala Gly Leu Ser Leu Leu Ser Ala Ile Ser Met Glu His Cys Leu Phe  
85 90 95  
Ile Leu Trp Pro Ile Trp Tyr His Cys His His Met Ser Ala Ile Ile  
100 105 110  
Cys Ala Leu Ile Trp Val Pro Ser Phe Leu Lys Gly Ile Leu Asn Leu  
115 120 125  
Phe Phe Ser Gly Phe Leu Gly Glu Thr His His His Leu Trp Glu Asn  
130 135 140  
Ile Asp Phe Ile Ile Thr Ala Phe Leu Ile Phe Leu Phe Met Leu Leu  
145 150 155 160  
Cys Gly Cys Thr Leu Ala Leu Glu Leu Arg Ile Leu Cys Gly Ser Arg  
165 170 175  
Lys Lys Pro Leu Ser Arg Leu Val Thr Ile Ser Leu Thr Ala Met Val

180  
Tyr Leu Ile Cys Gly Leu  
195

185

190

<210> 108  
<211> 847  
<212> DNA  
<213> Mus musculus

<400> 108  
ttcagaattc ttgatccatg tggatcatgtt actccccctt tattaataaa tgagtacatt 60  
aagccatatt gaaaacaata tctatattat attatgattg cccgaagaag ggtcaatgtt 120  
aaggtgatca aatatggcct gttttcctca gggacaccaa tgggtgattt gtttagcatg 180  
gatccaacca tctcatccca caacacagaa tcacaccact gaatgaacct ggcccatccc 240  
gactgcaatc caatcctggt tctgtccttt ctggctcctca tgcgtgtcct ggtggaactg 300  
gcaggaaaca ccattgttct ctggctcctg ggattccgca tgcacaggaa acccatctca 360  
gtctatgtcc tcaatctggc tctggcagac tccttcttcc tctgtgcca tttcattgac 420  
tctctgtctac aaatcattga cttcacctat gcccataaat taagcaaaga tatcttagac 480  
aatgcagcaa ttgttccctt tatcacaggg ctgaggggtcc tcagtgtat tagcatggag 540  
cactgcctgt ctgtattgtg gctaactctg taccactgcc accacctgag aaatatgtca 600  
gctatcctat gtgcccta ctgggttctg tcttttctca tgtccatcct ggactagtgc 660  
ttctcagaat tctgtcatga gactcatcat catttgtggg aaaatgttga ctttattata 720  
actgcatttc tgattttttt atttatgctt ctcttttagt ccagtctggc cctactgcgg 780  
aggatcctcc tgtggctcca ggaggaaata cctgtccacg ctatatgtta tcatctctct 840  
cacatg 847

<210> 109  
<211> 192  
<212> PRT  
<213> Mus musculus

<400> 109  
Phe Leu Val Leu Ile Ala Val Leu Val Glu Leu Ala Gly Asn Thr Ile  
1 5 10 15  
Val Leu Trp Leu Leu Gly Phe Arg Met His Arg Lys Pro Ile Ser Val  
20 25 30  
Tyr Val Leu Asn Leu Ala Leu Ala Asp Ser Phe Phe Leu Cys Cys His  
35 40 45  
Phe Ile Asp Ser Leu Leu Gln Ile Ile Asp Phe Thr Tyr Ala His Lys  
50 55 60  
Leu Ser Lys Asp Ile Leu Asp Asn Ala Ala Ile Val Pro Phe Ile Thr  
65 70 75 80  
Gly Leu Arg Val Leu Ser Ala Ile Ser Met Glu His Cys Leu Ser Val  
85 90 95  
Leu Trp Leu Ile Trp Tyr His Cys His His Leu Arg Asn Met Ser Ala  
100 105 110  
Ile Leu Cys Ala Leu Ile Trp Val Leu Ser Phe Leu Met Ser Ile Leu  
115 120 125  
Asp Phe Phe Ser Glu Phe Leu His Glu Thr His His His Leu Trp Glu  
130 135 140  
Asn Val Asp Phe Ile Ile Thr Ala Phe Leu Ile Phe Leu Phe Met Leu  
145 150 155 160  
Leu Phe Arg Ser Ser Leu Ala Leu Leu Arg Arg Ile Leu Cys Gly Ser  
165 170 175  
Arg Arg Lys Tyr Leu Ser Thr Leu Tyr Val Ile Ile Ser Leu Thr Val  
180 185 190